

MIND

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OF

PSYCHOLOGY AND PHILOSOPHY

I.—MR. W. T. STACE ON THE CONSTRUCTION
OF THE EXTERNAL WORLD.

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MR. W. T. STACE's book, *The Theory of Knowledge and Existence*,¹ contains many points of great interest. In this article, however, I propose to discuss only one, namely, his view of perception and the external world. It will presently appear that this involves, in addition, a consideration of his view concerning our knowledge of other minds.

Mr. Stace holds that each mind is acquainted only with its own *sensa*² and images and with certain of its own mental processes. These and these alone are given. But of course everyone claims to know very much more than this. In particular, everyone claims to know a number of facts about other minds, and about various material objects. Our knowledge about other minds is, according to Mr. Stace, inferential (what sort of inference it is we shall consider later). What about the material world? Obviously we are not *acquainted* with any material object, as we are with *sensa*. And Mr. Stace holds that our beliefs concerning material objects neither historically arose from, nor can be logically justified by, any form of *inference*. According to him, no argument having facts about *sensa* for its premises can make

¹ Oxford, Clarendon Press, 1932. Pp. xii + 455. 18s.

² Mr. Stace himself generally calls them 'presentations'. But the word '*sensa*', which he does occasionally use, seems to me both more familiar and less question-begging.

it probable, even in the least degree, that there is a material world. Mr. Stace concludes that since the material world is neither an object of acquaintance nor of inference, it must be a *construction*. The chief aim of the present article is to examine this doctrine.

A striking feature of Mr. Stace's view is that he holds that our knowledge of other minds is logically (and I think he would also say temporally) prior to our construction of the material world. It is true that various other philosophers have said this, or ought to have said it. Any idealist who believes that the finite self is a self and not merely an object is bound to say it. One of the most obscure doctrines of James Ward, for example, is that our consciousness of matter arises from 'inter-subjective intercourse'. But Mr. Stace has the great merit of being quite clear and definite about this priority. And he has the further merit of seeing that he is bound to produce an argument for the existence of other minds which does not already contain propositions about material objects among its premises, but only propositions about my own *sensa* and my own mental processes. I strongly suspect that many philosophers have fallen into a vicious circle here, and have held *both* that the material world is an inter-subjective construction, *and* that our knowledge of other minds is an inference from facts about certain pieces of matter, for instance human organisms : in which case they ought either to conclude that other minds are constructs, or that material objects are not.

Mr. Stace does at least do his best to avoid this glaring fallacy. Whether his argument for the existence of other minds is in fact tenable, is another question. There are, I think, serious difficulties in it. I shall, however, postpone the discussion of them till later. For the moment let us assume that his argument is valid : that from facts about my own *sensa* and my own mental processes (and nothing else) I can validly infer both the existence of other minds, and various facts about them. And let us at once proceed to examine what he says about the material world and about our consciousness of it.

Mr. Stace divides the construction of the material world into six subordinate constructions. (I shall take them in his order, though he does not lay great stress on it.) In addition to these, there is a further series of constructions concerned with physical space and physical time. The basic fact from which the whole construction starts is what he calls *the parallelism of private worlds*. I cannot be acquainted with your *sensa*, nor you with mine ; that is what is meant by speaking of private worlds. But I can know certain facts *about* your *sensa*. I cannot, indeed,

know what their qualities are. What you call 'red' may for all I can tell be the quality which I call 'loud' or 'pungent'; it may even be a quality which my sensa do not exemplify at all. But what I can know is that your sensa largely *correspond* with mine: *i.e.*, that your sensa are often *related to each other* in the same way as mine are related to each other. I want to insist that according to Mr. Stace this parallelism is something that we know (by inference of course) or at any rate have good evidence for, and not something that we construct. And it is what philosophers call a brute fact. It cannot be explained or accounted for, and as far as we can see it might have been otherwise; only, if it had been, we could not have constructed the material world.

1. The first step in our construction is the assumption that when sets of sensa sensed by different people are parallel in the sense just explained, they resemble each other in *quality* as well as in relations. Such qualitative resemblance between different people's sensa is neither immediately known nor inferrible from anything immediately known. We just assume it. As has been said, we have not the slightest evidence in favour of our assumption (nor of course against it). That is why it is called a construction. Why then do we make the assumption? The answer seems to be, because it is simpler than the alternative and equally unevicenced assumption of qualitative diversity.

2. The second step is to assume that where my sensa are parallel with yours, our respective sets of sensa are not merely qualitatively alike, but numerically identical: for instance that when we both look as we say at the same fireplace, we both sense the *same* set of colour-expanes, not merely two similar sets, one for you and one for me. For this again there is no evidence. It is just a further simplification. (The apparent inconsistency between step 2 and step 1 will be discussed later.)

3. The next step is the assumption that the sensum which I sense may go on existing after I have ceased to sense it, provided that it is still sensed by someone else: and consequently that the same sensum can be sensed by me on two different occasions even when I have not been sensing it in the interval, so long as someone else continued to sense it. This third step is forced upon us by the second. If the same red patch is sensed by you and by me, and you tell me that you are still sensing it when I have shut my eyes or turned my back, it follows that the patch exists independently of *my* sensing of it.

4. The fourth step, which implies but is not implied by the previous two, is the assumption that sensa exist when they are

not sensed by anyone at all. Mr. Stace actually says 'exist',¹ but he interprets the word in what may be called a phenomenalist sense. The statement that a brown patch 'exists' when no one is sensing it, only means, according to Mr. Stace, that *if* someone did so and so he would sense it. Mr. Stace is led to say this because he thinks it is logically (not just causally) impossible that brown patches or other *sensa* should exist in the straightforward literal sense of the word when no one is sensing them. For he holds with Berkeley that the *esse* of *sensa* is *percipi* (or, as it would be clearer to say, *sentiri*). I venture to think that he is mistaken in this, and shall return to the point later. But we need not delay over it at present. For the unsensed existence of *sensa*, though logically possible, may none the less be causally impossible; and that for the present purpose will come to the same thing, and will commit us to the phenomenalist interpretation.

5. The fifth step is formulated by Mr. Stace as follows: "That there exist 'things' or 'objects' which are not identical with presentations; and that the presentations are 'qualities' of the 'things'; and that the 'qualities' may change while the 'things' remain the same" (p. 133). This again is forced upon us by what has gone before. Here are two people, say myself and Smith. We compare notes and agree, in accordance with construction No. 2, that we are sensing the same view. But then it strikes us that after all we cannot be sensing literally the *same* set of *sensa*. For I find that I am sensing an elliptical patch while Smith is sensing a circular one. The only way to save the publicity of the sensible is to draw a distinction. We say that there are two different *qualities*, the sensible ellipticity sensed by me and the sensible circularity sensed by him, but that there is a single *thing* which they both qualify or manifest. Or we say instead (Mr. Stace holds that it makes no great difference) that there are two diverse *appearances* which 'belong to' the same thing.

Having made this construction we find that it comes in useful for another purpose, *viz.*, for the understanding of succession. We wanted to say (as mentioned before) that the same *sensum* can persist through a period of time. But how can it be the same, since it is divisible into a series of temporal parts, which are at any rate numerically different from each other, and usually different in quality as well? We get over this by saying that

¹ "Fourth Construction. That presentations may exist when no one is aware of them" (p. 122).

it is the 'thing' which is the same, but it has different qualities at different times.

But what exactly do we mean by 'thing' here? What is this something over and above the *sensa*, this substratum or object-in-itself which remains identical despite their diversity? According to Mr. Stace, no self-consistent answer can be given. For to assert that something exists *can* only mean, he says, that certain *sensa* are actual or possible, *i.e.* would be actual if one did so and so. Thus if the substratum is anything at all it must consist of possible *sensa* (or be one single possible *sensum*?) since it does not consist of actual ones. And yet *ex hypothesi* it is something wholly distinct from *sensa* and standing as it were behind them. If it did consist of *sensa*, we should need still another substratum behind *it*, and so we should have an infinite regress. Likewise if we use the 'appearance' language and try to discover what the thing can be over and above the appearances which 'belong to' it, we shall never succeed.

Mr. Stace, however, refuses to be troubled by these difficulties. He says that the notion of Thing and Quality is an *essentially* vague one; and that therefore if one tries to make it precise one is bound to fall into inconsistencies, so it is not worth trying. Not only so; it is wrong to try. For one would be ignoring a fundamental feature of what one is discussing. According to Mr. Stace the whole point about the notion of Thing and Quality is that it is just a makeshift. It is not that philosophers have been too stupid to make it precise: it is unprecise in itself.

6. The last construction in the series is that of the Equivalence of the Senses. We assume that "with the different senses we may perceive the 'same' objects" (p. 142). For instance, I assume that this brown colour-expanse with which I am acquainted by sight qualifies or belongs to the same thing as this hard smooth pressure-expanse with which I am acquainted by touch. (What is meant by 'senses' here, *e.g.*, by 'sight' and 'touch'? Would one differentiate them by means of the different organic *sensa* which accompany this and that kind of non-organic *sensa*?)

This completes our construction of the material world. Before discussing it, I should like to say something about the construction of space, which goes closely with it. The fundamental data are that some *sensa* have extension-spread, that they occur in extended complexes or fields, and that those fields overlap. Sensation, however, does not give us any spatial relations between those fields, but only within them. So far as sensation can tell, all we have is a series of private spaces (or spatial fields).

The construction proceeds by the following steps :—

1. First each mind constructs for itself a single continuous private space of sight, and a single continuous private space of touch.¹ If sensa did not exist unsensed, there would have to be as many visual spaces as there are visual fields, and they would all exist successively, not simultaneously (similarly with tactual spaces). But as we have already constructed unsensed sensa we can join up these many spaces into one. For now we can say that the sensa in visual field A still remain in existence when I have gone on to sense visual field B. Let us suppose that A and B overlap, as they often will. Then obviously there is one single simultaneous space including both A and B. And if they do not overlap each other, there will often be a third field which overlaps both : this gives us a single space including all three. Sometimes there will be a great number of intermediate fields between A and B, but by means of a series of overlappings they will always join up into one single spatial continuum, which will eventually combine all our visual fields. In the same kind of way, each mind constructs for itself a single private touch-space embracing all its tactual fields.

2. The next step is to assume that my private touch-space and my private sight-space are identical. This gives me one single private visuo-tactual space, in which all my extended sensa are located. Obviously we are committed to this by the previous construction of the Equivalence of the Senses (No. 6 above).

3. Next, we construct a *public* visuo-tactual space, which includes all the visual and all the tactual fields of all the sentient with whom I can communicate ; *i.e.*, I assume that everything that I sense by sight or touch is spatially related to everything that you or anyone else senses by sight or touch. This single spatial system is not, of course, given in sense, nor could I infer its existence from anything that I sense. But it is forced upon me by the two preceding assumptions together with the assumption of the publicity of sensa which was made earlier.

4. We then construct the third dimension of visual space. Mr. Stace maintains with Berkeley that visual data are in themselves 'flat'. According to him we just *assume* that some of the colour-expanses in the visual field are further off than others, that some are bulgy and some hollow, and so on, although the assumption (he says) has become so habitual that we usually

¹ Mr. Stace does not lay any stress on the order in which he describes the several stages of space-construction. He says they might occur in a different order, or several at once.

fail to notice that it *is* only an assumption. How does the assumption come about? Mr. Stace gives a very ingenious answer to this question. I have already assumed that my visual *sensa* are identical with my tactual ones. Yet I sometimes find that my visual *sensum* alters its shape or even disappears altogether while the tactual *sensum* with which I had identified it remains unchanged: *e.g.*, when I look at a penny and at the same time turn it in my fingers. If I turn it through a quarter of a circle the visually-round brown expanse with which I started disappears and is replaced by a thin rectangular one. Yet it must still exist somehow, for the tactually-round smooth expanse still exists: and we have already assumed that it is the same as the visually-round one (*i.e.*, that the two sets of qualities, visual and tactual, qualify the same particular). It follows that a colour-expanse can still exist when there is no room for it in a 'flat' visual field. We therefore assume that although only two visual dimensions are given, there is also a third one: and this gives us room for the round colour-expanse to exist in.

5. This commits us to the construction of empty visual space. If the visual field is flat, it must be a *plenum*. But if it has a third dimension it cannot be. Here are three colour-expanses, A, B, C. B is to the right of A and to the left of C and 'further off than' both. Then what is *between* A and C? No *sensum* is between them, and yet they are apart. So we must assume that there is an 'empty' region between them, which could be 'occupied' by an extended *sensum* but is not.

Mr. Stace adds a sixth spatial construction dealing with the commensurability of spatially-separated objects, which I shall not discuss. Nor shall I say anything about his construction of a single public time out of the private 'duration-spreads' which characterise our *sensa*. I hope, however, that the main lines upon which he works out his theory of the external world will now be clear. I wish now to offer some comments and criticisms.

I will deal first with a relatively minor point, Mr. Stace's quasi-Berkeleyan account of visual space. I venture to think that he is wrong about this, or at any rate that this account will not apply to *my* visual *sensa*, though it may be true of his. It seems to me perfectly obvious that in my own visual experience tri-dimensionality is as much given as colour or outline. Philosophers and psychologists may think that it oughtn't to be given. But I am afraid I cannot help it. Of course the physiological and psychological processes which *cause* it to be given may be as complex and as late-acquired as you please. Very likely

they are absent in flies, or cats, or new-born infants. Very likely habitual assumptions, long-since become unconscious, are among these causes. But surely we are not talking about causes; we are talking about the *sensa* themselves, and about the *sensa* which now are, not about their predecessors.

In short, we must not confuse questions about the causes of the given with questions about its nature.¹ Moreover, the antithesis between *given* and *not-given* is one thing, while that between *original* and *acquired* is another.

There are several other points to be borne in mind. First, I would insist with Dr. Broad that visual depth differs radically from physical distance. I cannot but think that in some places at any rate Mr. Stace overlooks this distinction. If the third dimension is given to sight, why is it (he asks) that the stars all appear equally distant from us, though they are very far from being so? And why are we deceived by painters into thinking that flat pictures are solid? The answer is plain. Two things at different physical distances from my retina (for instance, a planet and a fixed star) may perfectly well be manifested by *sensa* having the same depth. And two things at the same physical distance, for instance, a shaded and an unshaded disc painted on the same canvas, may perfectly well be manifested by *sensa* having different depths. No one, I hope, really wants to hold that the physical distance between my eye and the wall is given to sight. And no one who believes in the existence of *sensa* at all wants to deny that 'depthed' *sensa* may be and often are illusory, *i.e.*, may lead to false beliefs concerning the physical situation of the objects which they manifest (or if you like, to false predictions with regard to future *sensa*). Secondly, we must remember that visual depth is *finite*. In any visual field there is a maximum depth; there are certain *sensa* than which no other *sensum* in that particular field is 'deeper'. Associations of one kind or another may increase or diminish this maximum (for instance, it is usually greater for views of a familiar type than for unfamiliar ones); so may differences of illumination. Probably it is in general greater for adults than for children. But still it is always finite.

There are two other ways in which visual depth differs from

¹ The confusion is partly due to the fact that the word 'given' is sometimes used in a quasi-physiological sense to mean 'originating in processes outside the organism'. Plainly the given in that sense does not concern us here. We are concerned only with the given to consciousness. I may add that in Mr. Stace's theory the causes of the given (if indeed it can be said to have any), possess only 'constructive' existence.

physical distance. The three physical dimensions are interchangeable, in the sense that a distance along any one is commensurable with a distance along any other : for instance, the distance between London and York is commensurable with that between London and Bristol. But the three visual dimensions are not thus interchangeable. When sensum A has more depth than sensum B, and sensum B is to the right of sensum C, the two sensible intervals are not commensurable, though the physical distances between the corresponding material objects are. There is no meaning in the statement that A is as much deeper than B as B is to the right of C. Mr. Stace may say that if this is so the so-called third dimension of the visual field is not really a *dimension* at all. If so, what I assert is not what he denies, and there is no quarrel between us.

Lastly, it does not seem to me clear that depth always varies continuously, in the way that physical distance does. Within a certain small zone, which we may call the perfectly stereoscopic one, it does ; but beyond that it varies, I think, by finite gradations, or in jumps. When an object moves away from me in the line of vision, the sensum perhaps does decrease continuously in size ; but once outside the perfectly stereoscopic zone, it 'jumps' from one depth to another which is larger by a finite amount. The physical analogue to this part of the visual field (much the greater part) would be a series of screens placed at right angles to the line of vision and at finite distances apart, a series such that if a colour expanse is not on one of them it must be on another, and cannot be between two of them.

It follows from all this that even if visual depth is given (as I contend), physical distance and consequently three-dimensional physical shape will still have to be a 'construction'—supposing that there are constructions at all. So will the identity or equivalence of visual and tactual space. Thus the question is of no great importance for Mr. Stace, and his general view of the external world could still be true, even if he were wrong on this particular point.

We can now turn to a much more important problem : what exactly does Mr. Stace mean by the word 'construction' ? The word itself is not, of course, a new one. Many philosophers and not a few superior persons have told us that the material world is a construction, or is 'only' a construction. The most notable members of the first class are Mr. Russell on the one hand, and certain idealist philosophers, such as Mr. Bradley, on the other. What the idealists meant I do not presume to enquire. But Mr. Russell makes it fairly clear what *he* means.

When he says that the material world is a construction he means, I think, that all statements about material objects are reducible without remainder to sets of statements about *sensa* sensed and unsensed ; or to put it otherwise, he means that material objects are collections of *sensibilia*.

Is this what Mr. Stace means ? Clearly it is only part of what he means. He would make two very important additions : (1) that there is *no evidence* in favour of by far the greater part of those statements about *sensa*, (2) that the mental activity which is expressed by statements about material objects is neither a form of knowledge, whether intuitive or inferential, nor even a form of rational opinion, but is simply a form of *supposition* or *imagination* (in the sense of 'imagining that so and so is the case', not of course of 'imaging'). To put it in another way : he would agree with Mr. Russell that material objects are nothing but collections of *sensibilia*, but he would assert with Hume that most of these *sensibilia* are purely imaginary, namely, all the wholly unsensed ones, and the sensed ones before and after they are sensed ; whereas Mr. Russell holds, I think, that we have some reason, though it does not amount to demonstration, for thinking that there are great quantities of unsensed *sensibilia* and that sensed ones go on existing at times when we are not sensing them.¹

Now from this it might seem to follow either that it is false to assert the existence of material objects, or that at any rate we have no good reason for asserting that they exist. But this is not at all what Mr. Stace says. On the contrary, he insists that the material world really does exist, and that a great many statements about material objects are true. For he holds that there is not only 'factual existence', such as belongs to minds and to *sensa* when actually sensed, but also 'constructive existence' ; and agreeably with this, he tells us that the definition of 'truth' must be widened so as to include constructive truth as well as factual truth. He admits that these two sorts of existence and of truth are quite different, though he adds (again in a Humian vein) that we do, and ought to, ignore the difference except on those rare occasions when we are studying the Theory of Knowledge.

¹ Cf. Mr. Russell's *Our Knowledge of the External World*, and *Mysticism and Logic*, essays 7 and 8 ; Hume's *Treatise*, Book I., Part IV., section 2 ('Of scepticism with regard to the senses'). It is a pity that Mr. Stace does not discuss the views of either of these philosophers upon the external world, although both have a good deal in common with his own. Mr. Russell in particular lays it down as a maxim 'that wherever possible constructions should be substituted for inferred entities'.

Obviously this is a difficult and indeed puzzling doctrine. Does Mr. Stace mean that really material objects are fictitious entities, like the Jabberwock: but that on nearly all occasions it is simpler to pretend that they actually exist, whereas there is very rarely any point in pretending that the Jabberwock does? As a matter of fact Mr. Stace quite often uses the word 'fiction' instead of 'construction'. And he refers to the views of Poincaré and Vaihinger, to which he says his own is allied. Nevertheless I am not sure whether he does really mean that the material world is only a convenient and simplifactory fiction. The fact seems to be that he puts forward two distinct views concerning 'constructive existence', one of which would make the constructed equivalent to the fictitious, but the other would not. This I shall now try to show.

First it must be observed that Mr. Stace is not one of those philosophers who say that in a construction self-consistency does not much matter, and that one contradiction more or one less makes no particular difference. If he had said this, he would definitely be committing himself to the fiction view. If the assertion that material objects exist contains an internal contradiction, it certainly cannot be true that they exist (whether in that case it can still be justifiable—or even possible—to pretend that they do, I leave others to determine: apparently both the As-if Philosophers and the Absolute Idealists think that it can). However, Mr. Stace quite definitely lays it down that a 'valid' construction must be self-consistent, and he certainly thinks that the material world *is* a valid construction. But he also says equally definitely that the sub-construction of Thing and Quality, which according to him is an essential part of it, is 'an inherently self-contradictory idea' (pp. 141-142). Indeed, as we have seen, he reproaches philosophers for trying to make this idea self-consistent.

Nor is this the only inconsistency. The first subconstruction states that the corresponding *sensa* of different observers *resemble* each other, the second that they are *identical*.¹ Obviously these two propositions are mutually incompatible. For plainly it is numerical identity which is meant. And entities which resemble each other must be numerically diverse; resemblance is a two-term relation. Nor is this all. When we get as far as the construction of Thing and Quality, we apparently abandon

¹ It is not really sense to say that two entities are numerically identical. What we really mean is that two *characteristics* or sets of characteristics (e.g., the being sensed by me and the being sensed by you) both characterise one entity.

the numerical identity again. What is numerically identical is now the Thing, and this is manifested by numerically diverse *sensa* which (it turns out) do not even resemble each other exactly: indeed Mr. Stace says that some of them, *e.g.*, the tactual and the visual *sensa* of the same object, do not resemble each other in the least, but are related only as sign and signicate.

Thus Mr. Stace must either abandon the principle that a valid construction has to be self-consistent, or he must modify his account of the construction of matter in certain important respects. Obviously the second alternative is the better one. But can the modification be made?

Let us first consider the case of Thing and Quality. What the construction requires is that despite the qualitative difference between my round *sensum* and your elliptical one, yet in some sense we are both seeing the same penny. This is all that the common sense view of the matter demands. What exactly it is that is 'the same', common sense does not stop to enquire. As Mr. Stace says, common sense is vague. But we need not conclude, as Mr. Stace does, that this demand is one which cannot be self-consistently satisfied.

There seem to be two ways of satisfying it. (Mr. Stace considers only the first, and that is one reason why he falls into difficulties.) One is the theory of a common centre which the two *sensa* both manifest or are appearances of. The other is what I may vaguely call the group theory. According to this, that which is the same is a group or system, and the two *sensa*, though numerically and qualitatively diverse, are both constituents of it: so are indefinitely many other *sensa*, and the 'thing' just is the whole group of them. Of course, the group will have to be of a special sort. It will not do to say that it is just a class. I suggest that it must be the sort of group which I have elsewhere called a 'family'. This consists of two sub-groups. One, which forms the 'nucleus', is made up of spatially synthesisable members; the several shapes and sizes of these are such that they together constitute a single three-dimensional solid (the 'standard figure' of the family). The second subgroup contains all the other members of the family. They are distortions of this standard figure, and can be arranged in series of increasing distortedness, each series having a part of the standard figure for its limit.

Nor am I sure that Mr. Stace is fair to the centre theory, which is the only one he discusses. Let us accept for argument's sake his postulate that 'to exist' means 'to be or to consist of *sensa* actual or possible'. The centre must then be conceived to be

a set of possible sensa. Now surely the whole point about it is that it will have to be a *spatially unitary* set: for instance in the case of the penny it will be a set of sensa such that they together constitute a disc. What is wrong with this suggestion? Why does it follow that these central sensa will need another centre 'behind' them, and so *ad inf.*? This would only follow if they were *spatially incompatible* with each other, like the various perspectified sensa with which we started. But the whole point of positing the central sensa was that they should not be thus spatially incompatible with each other. They are thus enabled to form a common centre from which your sensum and mine, Smith's and Brown's and Robinson's, all diverge in various degrees and manners, and by their common relations to which these variously divergent shapes are united. There would only be a vicious regress or a contradiction if the existence of a set of spatially compatible colour-expanses was *logically impossible*: which plainly it is not.

I suggest that Mr. Stace is misled here because he insists on using the phrase 'thing and *quality*' for this construction. If a thing which is qualified itself turns out to consist of qualities, then of course there is a vicious regress. But the problem which this particular construction is designed to solve seems to me to have nothing to do with qualities, nor with the relation of quality to subject qualified. The problem with which it is concerned is the quite different one of thing and appearances, or thing and perspectives. And as a matter of fact the problem of quality and subject qualified (if it is a problem) arises with regard to *both* sides of the antithesis. The centre is qualified by the quality of disciness and perhaps by others, *e.g.*, causal properties: and each of the sensa which are appearances of it is qualified, *e.g.* by ellipticity, or circularity, or brownness.

What of the other inconsistency, concerning resemblance and identity? As we saw, in the sub-construction no. 1 it is asserted that your sensum and mine resemble each other, in no. 2 that they are identical, and again in no. 5 (which we have just been discussing) that they resemble each other. Obviously it is no. 2 which must be altered. Mr. Stace's own formula for it is as follows: "That the corresponding presentations of different minds are identical, and that there are not many universes but only one" (p. 111). Will it not do if we say: when two minds sense corresponding sensa, there exists a single something to which both these sensa belong? We can then go on to say that this single something still exists when A's act of sensing has ceased but B's has not (step no. 3); and finally that the single

something continues to exist when no one at all is sensing *sensa* which belong to it, so that it is independent of sensing altogether (step no. 4). The revised formulæ are compatible both with the view that the single something is a centre, and with the view that it is just a group: that is, they are neutral as between different possible analyses of the relation 'belonging to'. Further they are compatible both with the view that *sensa* continue to exist when no longer sensed and with the view that nothing is then left but 'possibilities of sensation'.

These reformulations, which are not so very drastic, will enable Mr. Stace to avoid both the inconsistencies which we have referred to, both that with regard to Thing and Quality, and that with regard to Resemblance and Identity.

But it is possible to take a completely different line, and one which in some ways is closer to what Mr. Stace actually says. He tells us that one of the principles which guide the mind in its construction of the external world is the maxim, 'Ignore differences which make no difference' (*i.e.*, make no difference either to practice or to any cognitive activity other than philosophy). Now to ignore something, we may reflect, is not to deny its existence. On the contrary, one thereby acknowledges that it does exist: only one concentrates attention on the consequences which would follow *if* it did not. Accordingly it may be suggested that the mind decides to ignore both the numerical and the qualitative differences between the corresponding *sensa* of different observers, because it is interested in the consequences which would follow if those differences were not there. Thus when you and I look at the same table, we should not categorically assert that there is just one common *sensum* sensed by both of us, and by anyone else who comes along. That would be incompatible with our previous assertion that there are two corresponding *sensa*, yours and mine, which resemble each other. We should only say 'Let us *suppose* there was one common *sensum*, *though we know very well that there is not*'. No law of Logic forbids us to suppose this, if we like. We could then go on as follows: 'If there were this one common *sensum* (which there is not) it would have to continue in existence when not sensed by me, provided your sensing of it lasted longer than mine. And it might very well continue in existence when no one sensed it at all. If this, again, were so, there would be persistent groups of public *sensa*, independent of sensing, constituting an external world of "things".'

However, this is not yet quite exact enough. Let us take the usual instance. You and I are both looking (as we say) at the

same penny, and your sensum is round while mine is elliptical. 'Ignoring the difference between them' *might* mean that we suppose a common sensum to exist which is neither circular nor elliptical. But that is not what we do. In this and many similar cases our ignorance will have to be so to speak one-sided or preferential. What we have to ignore is the ellipticity, not the circularity, still less both. (Of course we have then also to ignore the numerical difference between the two sensa.) Why does our ignorance take this particular direction? Because the supposedly common sensum has got to be *spatially synthesisable* with others. What we want to get to is a complete three-dimensional whole of sensa, in this particular case a disc. And I think we shall have to say that we have an innate idea of tri-dimensional wholeness, and an innate tendency to look for instances of it and a consequent tendency to ignore those characteristics of the given which prevent us from finding them.

Our procedure then will be as follows. When two minds sense corresponding sensa, what they ignore is (a) the distortedness of either or both of the sensa, (b) their numerical difference. Even this is not quite explicit enough. For distortedness (like its contrary, spatial synthesisability) cannot really characterise a single sensum in isolation, but only one which is a member of a series. Thus the full statement will be this: when two minds sense corresponding *series* of sensa, we ignore (a) the qualities in either or both which prevent it from being a spatially synthesisable series, (b) the numerical difference between the two series. This ignorative procedure, by which we remould the Given nearer to our heart's desire, might be called the Rectification of Sensa, if we want a name for it.

It will be observed that this interpretation of Mr. Stace's meaning gets over the difficulty about Thing and Appearances as well. For that dubious and (as he thinks) self-contradictory notion was only introduced because your sensum and mine often differ in shape or size or colour when we suppose ourselves to be looking at the same object. But if we have already decided to ignore such differences, no difficulty arises. 'Things' will be just those three-dimensional public complexes of sensa, independent of our sensings, which *would* exist if all sensa were public and undistorted. The relation the Thing has to these rectified sensa will simply be that of whole to part, and there will be no difficulty about it at all.

I hope I have now shown that if we try to make Mr. Stace's theory self-consistent, there are two alternative forms of it between which we have to choose: we might call them the Extra-

polative View and the Ignorative View. (The first, we saw, has again two forms, according as we hold (a) that the Thing is a 'centre' of which our sensa are 'appearances', or (b) that it is a family-group of which they along with many others are members. In what follows I shall consider only (b), for the sake of simplicity: but what I am going to say can easily be applied to (a) as well.)

These two views have a good deal in common. In both we suppose that the sensa which we sense also exist unsensed, and further that there exist a multitude of other sensa which are never sensed at all. That is, they agree with regard to what Mr. Stace would call the 'existential' part of the construction. But they differ with regard to what he would call the 'unificatory' part. Both, it is true, suppose that there is some sort of unity between different people's sensa and that there is some sort of public world. But in the first view the unity is secured by supposing merely that there are complexes to which different people's private sensa belong: whereas in the second we make the much more violent and paradoxical supposition that sensa are themselves public, and further that none of them are distorted. The difference is that on the Ignorative View we are at this point supposing something *which we are sure is false*: whereas on the Extrapolative View we merely suppose something *which we do not know to be true*. Thus on the one view an element of make-believe enters at this point, on the other it does not.

We can now return to our previous question as to the status assigned by Mr. Stace to the material world. It is obvious that on the Ignorative View at any rate material objects *are* fictitious, as we surmised above (p. 283). To suppose something *against* which we have conclusive evidence, as it does, is clearly fiction. To suppose something *for* which we have no conclusive evidence, as both views do (namely, that unsensed sensa exist), is at worst only imagination, not fiction.

Mr. Stace, however, may demur to the distinction which I have just drawn. For, he may say, we are sure that in point of fact sensa cannot exist unsensed: in which case there will be an element of fiction in both views, though it will still be true that the Ignorative View contains a double dose of it.

But it is not clear that Mr. Stace is right about this. The phrase 'unsensed existence of sensa' may be interpreted in two ways, the *phenomenalistic* and the *realistic*. According to the first, which Mr. Stace himself adopts, '*s* exists unsensed' only means 'if someone were to do so and so he would sense *s*'. ('If he were to do so and so' will reduce to something like 'if

he were first to sense such and such a series of views'. To say that it means 'if he were first to move his body thus and thus' would obviously be a vicious circle, since his body is a material object, and *material object* is the term we are supposed to be defining.) On the realistic interpretation the statement that *sensa* exist unsensed is to be analysed in a perfectly straightforward manner: it simply says that they are actually there in the way in which they are actually there when we sense them.

Now it seems plain that on the phenomenalist interpretation there is not the slightest taint of fiction about unsensed *sensa*. When we assert that they exist, we shall be asserting something unexpectedly complicated, but it will not be something against which we have evidence. It is not even something for which we have no evidence. On the contrary, we have got quite good evidence for it. Let us take an instance. I am now looking at the front of a door. I say that a back view of it also exists, though no one is now sensing it. This will mean on the phenomenalist interpretation that if anyone were to sense such and such a series of views (say the series which we describe as going down a particular passage) then he would eventually sense that back view. Thus what I am really doing is to state a *law* about the manner in which certain sorts of *sensa* follow one another. And I do not state it out of the blue, with no reason at all. My reason is that I have often experienced such successions of *sensa* in the past. To be sure, the law only states a probability. It is of the form 'given A, B is probable'. (To say that it was of the form 'given A, B is *certain*' would be to deny the existence of illusion and hallucination.) And of course the evidence for it is only inductive. But still, as inductive evidence goes, it is pretty strong. And I shall not disguise my conviction that outside of pure mathematics very little other evidence is to be had.

What about the realistic interpretation? Mr. Stace seems to hold that if anyone asserts that unsensed *sensa* exist in a straightforward and literal sense, his statement is certainly false. But I venture to think that it is only probably false, not certainly; and that in any case Mr. Stace has given a bad reason for his view. His reason is that he holds with Berkeley that the *esse* of *sensa* is *percipi* (it would be clearer to say *sentiri*), and if so it is, of course, logically impossible that unsensed *sensa* should exist in the straightforward realistic sense of that word. But why does Mr. Stace hold this? Partly because he calls them 'presentations'. Now, of course, an unpresented *presentation*, like an undeated idea, is logically impossible. But what about an unpresented *colour-expanse* or an unpresented *sound*? How

can it be said that these are logically impossible ? What contradiction is there in supposing that a colour-expanse is sometimes a presentation and sometimes not ? When it is a presentation, *ex vi termini* it is presented to a mind. But this does not imply that it is always a presentation ; and there is no contradiction in supposing that some colour-expanses are never presentations at all.

It is true that there are grounds for thinking that colour-expanses, sounds, etc., only exist *in the presence of organic sensa*. We never find non-organic sensa without organic ones, and these two sorts of sensa vary concomitantly. Therefore when I turn my back on the table and cease to sense the brown trapeziform expanse, it is probable that that sensum ceases to exist : not, however, because I have ceased to sense it, but because I have removed the organic sensum which accompanied it. But this argument is only an inductive one, not a demonstration ; and if anyone asserts that colour-expanses, sounds, etc., go on existing in the absence of organic sensa, I do not see how it can be *proved* that he is wrong. Moreover, we must remember that what is called the Selective Theory offers an alternative explanation of the empirical facts. It accounts for the co-presence and co-variancy of organic and non-organic sensa by supposing that the organic ones have an instrumental or revelatory function. According to it, the visual sensum V_1 cannot be *presented to consciousness* apart from the organic sensum O_1 , nor V_2 apart from O_2 , and so on : but V_1 can very well *exist* without O_1 , and V_2 without O_2 . This theory seems to me to get into great difficulties about time and change, but I am not sure that it can be definitely refuted.

Now, when people assert the existence of unsensed sensa, what they really want to maintain, I think, is some form of the Selective Theory. They want to assert that colour-expanses, sounds, etc., continue to exist not only when we cease to sense them, but also when our organic sensa are removed : that the trapeziform brown expanse continues to exist not merely when I cease to see it, but when I shut my eyes ; and that the sound goes on not merely when I cease to hear it, but when I stop my ears. And I suspect that this is the assertion which Mr. Stace really wants to deny. If so it seems that he is *probably* right, and that visual, tactual and other non-organic sensa probably do not exist in the absence of organic ones. But I do not think that his view can be *proved*, still less that it is self-evident ; and in any case he has given the wrong reasons for it.

We can now return to our problem about the fictitiousness of

material objects. We saw that on the Ignorative Theory they must certainly be fictitious. Must they be so on the Extrapolative Theory too? It all depends how we interpret the phrase 'the unsensed existence of sensa'.

If we interpret it in the phenomenalist way, there is no element of fiction in this theory at all, though plenty of induction. When we say that over and above the sensa which we actually sense, a number of other sensa are obtainable, and that a material object just is a family of actual and obtainable sensa, we may be giving a surprising account of what a material object is, but we certainly are not saying that it is something fictitious. Let us take the case of the table. It is certain that this brown trapeziform sensum now exists, for I am actually sensing it. And it is probable on inductive grounds that other sensa confamiliar with it are obtainable *ad libitum*. Hypotheses of this general form, that further sensa confamiliar with a given one are obtainable *ad libitum*, are constantly being verified in our experience. Not that any of them is ever *completely* verified (if that means anything), but certainly many of them receive an overwhelming amount of verification. Thus it is very probable that there exist a large number of families of sensa. There is no fiction about this proposition. When I say that it is very probable, I mean that there exists strong evidence in favour of its being *true*, in the ordinary non-Pickwickian sense of the word 'true'. Thus if a material object is nothing but a family of actual and obtainable sensa, as Phenomenalists assert, it is very probable that a great number of material objects exist. And if so, the material world would *not* be a 'construction' in Mr. Stace's sense. It would still be one in Mr. Russell's sense; for all statements about material objects would be reducible to statements about sensa. But not in Mr. Stace's, since according to him any construction must contain propositions which we assume *without evidence* (or even, in some cases, against it), and indeed the constructing consists essentially in assuming such propositions: whereas on the phenomenalist view of material-objectness, there *is* evidence that material objects exist, and our state of mind when we assert their existence is a state not of mere assuming, but of rational opinion.

But what if we adopt the realistic interpretation? If we do, there *is* an element of fiction in the Extrapolative View. For if we assume that visual, tactual and other non-organic sensa exist in the absence of organic ones, we are assuming what is *probably* false. Even so the fiction is less glaring and outrageous than that upon which the Ignorative View is founded: for there

we assume what is *certainly* false, *viz.*, that all *sensa* are public and none are distorted.

Now if material objects are fictitious what can be meant by saying (as Mr. Stace does) that nevertheless they really exist? How can it then be said that the material world is a 'valid' construction? Mr. Stace gives three criteria for the validity of constructions. (1) They must be self-consistent. (2) They must be consistent with the given. (3) They must be necessary for the purposes of knowledge. There is no difficulty about condition no. 1. And we have already tried to show how no. 2 is to be satisfied. The whole trouble now is about no. 3. How can it be 'necessary for the purposes of knowledge' to suppose something which is certainly or probably false? Is it meant that the supposition is an hypothesis which *if* it were true would explain the facts? I think this is not quite what is meant. The stress would be laid on the *simplicity* of the hypothesis, and some word like 'correlate' would be substituted for 'explain'. Let us take an instance, say, a cubical block of stone. We suppose that there exists a certain spatially-unitary complex of visual and tactual *sensa*, which exist whether sensed or not, and which together have a cubical shape. Now it would be said that if this *single* hypothesis were true it would enable us to 'correlate' a great *multitude* of *sensa*, and that no other hypothesis that we can think of would enable us to do so. But what does 'correlate' mean? I think the meaning is, that a great variety of sense-given shapes—squares, parallelograms, trapezia, etc.—would then form a *system*, for they would all be either portions or distortions of the surface of this cube: whereas apart from this hypothesis they would be a chaotic aggregate.

The interesting point is that it is not necessary for the correlation that the assumption should be *true*. (That is where correlation differs from explanation: we can say of a false hypothesis that it *would* explain the facts if it was true, but not that it does explain them.) Whether there is in fact such a cubical entity or not, it is still the case that *if* there were, the various sense-given shapes *would* be portions or distortions of its surface. This is a genuine though complex fact about the sense-given shapes, a fact quite independent of us and our supposings. And the so-called 'correlating' is simply the *discovery* of this fact. The fact, of course, is the sort of one which can only be stated in a hypothetical statement. But that statement is true, not in any Pickwickian sense, but in a straightforward literal sense; and it is true whether its protasis is true or false. What Mr. Stace appears to be saying is that because

this hypothetical statement as a whole is true in the ordinary literal sense, therefore its protasis is true in a new Pickwickian sense (though in the ordinary literal sense it is false). Or to put it otherwise: because our *sensa really are* what they would be *if* this single and simple object existed, therefore in a new sense of the word 'exist' it does really exist, though in the ordinary sense of the word it doesn't. As we have seen, Mr. Stace does carefully distinguish between the 'factual existence' of actually sensed *sensa* and the 'constructive existence' of material objects. And with these explanations it is perhaps just defensible to say both that material objects are fictitious and that they really exist. But such a way of speaking is simply an abbreviation for a complicated set of hypothetical statements (about actually sensed *sensa*): and like all such abbreviations can hardly help being misleading.

I have been speaking of these three forms of Mr. Stace's theory, namely, the Ignorative View and the two forms of Extrapolative View, as if they were incompatible alternatives. Certainly they are quite different from each other. But perhaps it might be possible to combine them, by holding that they state three different factors in the total situation, as follows.

We have seen that the phenomenalistic view is correct in saying that there are families of actual and obtainable *sensa*. And the other form of the Extrapolative View (the realistic form) is correct in saying that a complicated hypothetical statement is true of our *sensa*; *viz.*, that the *sensa* which we actually sense are such that *if* there existed in addition certain spatially unitary complexes of unsensed *sensa*, they *would* be distortions or portions of these complexes. This is just a fact about the *sensa* which we actually sense, and none the less so because it can only be stated in a hypothetical statement whose protasis happens to be false. But this is not all. The theory is also correct in its psychological part. It is, I think, a psychological fact that this protasis is actually present to our minds when we perceive, and that we habitually ignore its falsity. What we do is to imagine the obtainable (or 'possible') *sensa as if they were now actual*, although they are not now being sensed. When I say 'Here is a door', not only do I believe that other *sensa* of such and such a sort are obtainable, confamiliar with this one which I now sense; I also imagine them as now existing, and as forming (together with this one) a *simultaneous* complex of colour-expanses, pressures, etc. I do not exactly believe these last propositions. It would be nearer the truth to say that I entertain them without disbelief, and that I fail to distinguish these merely

entertained and probably false (in any case unverifiable) propositions as to the present and simultaneous actuality of the, as yet, unsensed *sensa*, from that believed and probably true one as to their successive obtainability.

Moreover it is true as a matter of psychological fact that one does often ignore the numerical and qualitative differences between one's own *sensa* and other people's; or again between two *sensa* of one's own, say between a near and a distant view of the same thing, a 'head-on,' view and an oblique one, an earlier and a later one. So far the Ignorative View is correct. We do often ignore both the privacy and the distortedness of our *sensa*. Only here again it is not that we positively believe that these differences and distortednesses do not exist: rather, we entertain without disbelief the proposition that they do not.

In so far as our psychological attitude in perception contains (in addition to sensing) this entertaining-without-disbelief of unverifiable and probably false propositions as to unsensed *sensa*, and of certainly false propositions as to sensed ones, the process which Mr. Stace calls 'constructing' does form part of it. Only Mr. Stace seems to hold that there is nothing in it but sensing and constructing. I wish to maintain that it also contains at the very least one other element: namely, the rational because inductively grounded opinion that the further *sensa imagined* to be simultaneously actual really *are* successively obtainable, and that together with this one now sensed they constitute an ordered group of the sort which I have been calling a family. Perhaps Mr. Stace would not deny this. But at any rate he lays no stress on it. And surely it is this element which makes our perceptual consciousness something more (and dare I say, something better?) than the inventing of simplificative and thought-economising fictions.

I have left to the end Mr. Stace's doctrine concerning our knowledge of other minds. As we have seen, he holds that the construction of the external world is essentially a social process; the first steps in it consist in making certain assumptions about the relation between my own *sensa* and other people's. Other minds and their *sensa* must therefore have 'factual' not merely 'constructive' existence. And our consciousness of them must be not a form of construction but of knowledge or rational opinion. Mr. Stace contends, however, that it does not matter to his main argument what particular theory we hold with regard to this knowledge or opinion; that so long as one admits that each of us does possess it, it does not matter (for instance) whether one holds it to be intuitive or inferential. Here I think he over-

states his case. For according to the most familiar form of inferential theory, the premises from which we infer the existence of other minds consist mainly in observed facts about the behaviour of certain organisms. But since these organisms, being material objects, are themselves inter-subjective constructs on Mr. Stace's view—no less than tables or mountains—he is bound as we have seen to reject at least that form of inferential theory, because it would involve him in a vicious circle.

What he actually does is first to criticise the Intuitive Theory (which he accuses of mixing up psychological primitiveness with logical self-evidence), and then to put forward his own revised form of Inferential Theory, which professes to avoid this vicious circle. His view is that each mind is originally 'solitary' and neither knows nor thinks of anything else except its own introspectible acts, its own *sensa*, and the qualities and relations of both. This original condition of each of us he calls 'solipsism'. He seems to think that this part of his theory will shock philosophers very much. For philosophers, he holds, have such a horror of solitude that nothing will induce them to admit that solipsism is even a possible position. For my part I confess that I am not in the least shocked, and I do not see why Mr. Stace's description of our original state of mind should not be substantially right. Only I do not think he is entitled to call it 'solipsism'. The words *solus* and *only* are surely negative. A man is a solipsist if he *denies* that there are any other minds, or if he denies that there is any good reason for believing that there are. (The first would be Dogmatic Solipsism, the second, Problematic.¹) But before one can deny these propositions one must have considered them. One must at least have entertained the possibility that there are other minds, before one can reject it; one cannot say no to a question which one has not even asked. But in the state which Mr. Stace is describing this question simply has not been presented to consciousness at all. For similar reasons such a mind as he describes cannot properly be called 'solitary'. A solitary mind is one which knows or believes that there are no other minds with which it can at the moment communicate. If it has not so much as conceived the possibility of communication, it cannot yet be solitary. Indeed, if there really are other minds with which it could in fact communicate, though it doesn't know it, we cannot even call it 'solus'. All we can say of it is that it is *non-social*.

However, the interesting question is, how do we get out of

¹ Cf. Kant's distinction between Dogmatic and Problematic Idealism.

this original non-social state, granting that we were once in it ? Mr. Stace's answer consists essentially in restating the familiar Analogical Argument *in terms of sensa*. Where it talks about 'my body' he talks about my organic sensa and the group of visual and tactual ones connected with them ; and where it talks about 'other human bodies', he talks about other groups of visual and tactual sensa resembling this one. Now it seems to me obvious that this revised form of the Analogical Argument will not work.¹ For how could a group of *my* private sensa constitute *your* body ? No doubt my organic sensa differ from all others that I sense in several ways : (1) in their peculiar quality ; (2) in being always present whenever I sense at all, whereas other sorts of sensa come and go ; (3) in that changes in them are accompanied by felt pains and pleasures ; (4) in that voluntary changes in other sensa, so far as possible at all, can only be brought about by changing these first. And no doubt certain visual and tactual sensa are closely connected with these organic ones, and constitute together with them a 'central' group or core in my sense experience. Let us call this central group C. Further, one senses other groups of sensa which resemble this one in respect of colour and shape and tactual qualities. Let us call these other groups K_1, K_2 , etc. Now on these premises alone I cannot conclude that there exist other minds M_1, M_2 , etc., to which the several K groups are related in the same sort of way as the C group is related to me. The group K_1 , for instance, could not possibly be related to a mind M_1 in the way the C group is related to me. For the K_1 group after all only consists of certain of my private sensa. How, then, can it be related to *another* mind in the required way ? Can changes in a group of *my* private sensa cause a pain in you ? Can a group of my private sensa form the constant centre of *your* sense-experience, in the way that the C group forms the constant centre of mine ? Let us take Prof. Moore's instance. I have the experience which I should later describe as seeing a weight dropped on the toe of another human body. (I cannot yet describe it so, for as yet *ex hypothesi* I know nothing of bodies at all.) This sequence of sensa is quite like the one which I sense when—as I should later describe it—I see a weight dropped upon my own toe. What conclusion can I draw ? Only that *I* am feeling a pain. As a matter of fact I feel none. But what other conclusion can the analogy point to,—unless indeed I *already* have reason to think

¹ In the criticisms which follow I am merely repeating the arguments of Prof. Moore and Dr. Broad.

that my *sensa* are constituents of public objects, or at least that there are other private worlds besides my own, and that changes in mine are somehow correlated with changes in those?

Of course if *sensa* were public,¹ all might be well. Now as we have seen, Mr. Stace does sometimes seem to want to say that they are. But in the first place, this publicity which he speaks of is at best only 'constructive' not 'factual': whereas we must have factual publicity if the argument is to work, since the existence of other minds (which it is to establish) is supposed to be factual, not merely constructive. Secondly, the publicity which he speaks of, like all his constructs, *presupposes* the factual existence of other minds and the possibility of communication between myself and them. Thus the publicity which the argument requires is of a sort which is not allowed for in his theory. And even that would not be enough. The group of *sensa* K_1 which I later learn to call 'appearances of Smith's body' is only presented to *me* intermittently. Am I to suppose that Smith's mind ceases to exist when I cease to sense them, and that when I have the experience called 'seeing Smith's body again' there is a new mind animating the new *sensa*? And am I to suppose that Smith's body has no back nor insides, and that when I see only his head, the rest of him isn't there? We could indeed avoid this kind of difficulty by two further suppositions, in addition to the supposition that *sensa* are public: we could suppose that *sensa* exist when not sensed by me, and further that besides the *sensa* which I sense there exist a vast number of others which I never sense at all. (This unsensed existence would have, of course, to be factual and not constructive.) But if we make these suppositions, we have landed in a form of the Selective Theory, which is the last thing that Mr. Stace wants to hold. We are now saying that the mind is already aware of the material world *before* it is aware of other minds, and the priority will be both logical and temporal. This material world is a vast and various jungle of *sensibilia*, a very few of which are from time to time 'selected' by us, and all of which exist in a perfectly straightforward and literal sense whether sensed or not. On such a theory there is no room and no need for any of Mr. Stace's 'constructions'.

If this is so, only two ways of escape seem to be open to Mr. Stace. Either he must after all adopt the Intuitive Theory as

¹ *I.e.*, supposing them to be such that *if* there were other minds, those minds could be aware of them as well as I. We could then conclude from the observed analogies between K_1 , K_2 , etc., and C that there are *in fact* such minds.

to our knowledge of other minds, a theory which is very far from plausible, and against which he himself has brought strong arguments. Or else, he must reformulate his account of the construction of the material world. His starting-point must be not the parallelism between different people's sense-histories, but the parallelism between different sets of *sensa within my own experience*: e.g., between certain sets of tactual *sensa* and certain sets of visual ones, between near and distant views of the same landscape, or between slightly differing perspectives of it. The assumption one would make would be that there is a persistent and spatially-unitary something of which these mutually 'corresponding'¹ *sensa* are constituents, and further that this something exists whether I am sensing its constituents or not. The material world thus constructed will have from the first a character somewhat analogous to publicity. It is so to speak public *as between different points of view*. It would then be an intelligible hypothesis that there might *be* *sensa* existing from the point of view P when I am at another point of view P', and further, that such *sensa* might be *sensed* though not by me; this amounts, of course, to the hypothesis that the point of view P' is occupied by a mind other than self. I might then get confirmation of this hypothesis, though never absolute proof, by noticing that various material objects move about and change *as if* they were affected by the volitions of a mind which resembles myself in the general nature of its desires and purposes, which is conscious of the same material world as I am, and uses parts of it in the same sort of way as I do for the fulfilment of its desires and purposes. These teleological motions and changes in matter will include motions and changes in human and animal organisms, but by no means those only. If I find a library full of books, or if I notice a brickbat whizzing directly towards my head, that is strong evidence for the existence of another intelligence with designs and tastes of the same general nature as my own, even though I never observe any organism engaged in building the library, or writing the books, or handling the brickbat.

¹ It will be remembered that S_1 and S_2 are said to 'correspond' when S_1 is related to other *sensa* in its sense-field in the same way as S_2 is related to other *sensa* in *its* sense-field.

II.—PROF. HALLETT'S *ÆTERNITAS* (II.)

By C. D. BROAD.

(2) *NATURA NATURANS*.—We can now leave *Natura Naturata*, and consider what Prof. Hallett has to say about that other, and still more mysterious, aspect of reality which Spinoza distinguished as *Natura Naturans*. Here, I may as well confess at once, I am almost wholly out of my depth. Prof. Hallett thinks that Spinoza retained the essential part of the notion of "creation," and that this is a logically indispensable feature of his system.

What Prof. Hallett has to say on this subject is perhaps most clearly stated in Chapter VI. It may be summarised as follows. (a) *Natura Naturans* and *Natura Naturata* are not two separate existents, but are two different and asymmetrically related aspects of the same Reality. *Natura Naturans* can be conceived only as the ultimate cause of *Natura Naturata*, and, to that extent, cannot be conceived without all reference to *Natura Naturata*. But one can have an *adequate* idea of the former without *detailed* knowledge of the latter. (b) *Natura Naturata* is as real as *Natura Naturans*. The former is a necessary consequence of the latter, and, if the former were delusive, the latter could not be real. (c) *Natura Naturata* is a genuine individual whole with genuine individuals as parts. Its unity is of a unique kind, being neither mechanical (for that would demand an engineer) nor organic (for that would demand an external environment). Each individual part of *Natura Naturata* is a reproduction, in its degree, of *Natura Naturata* as a whole. Every such reproduction must, from the nature of the case, be imperfect; since the characteristic unity of a part, which interacts with an environment of other parts, cannot be exactly like the characteristic unity of the Whole, which has no environment and can interact with nothing of its own level. The number of parts reproducing the whole

in their various degrees cannot be finite, or there would be unrealised possibilities. (d) Now, if a whole were conceived as having *only* the structure which has just been ascribed to *Natura Naturata*, the conception of it would be circular or self-contradictory. Each part is to be *nothing but* a reproduction of the whole; it is to be like a shadow of a stick, and not like a sheet on which a shadow of the stick is cast. And the whole is to be *nothing but* the totality of the reproductions of itself; it is to be, not like a stick which casts a number of different shadows on a number of different sheets, but like a collection of the shadows cast by a collection of shadows on each shadow of the collection. (The analogies are mine and not Prof. Hallett's, but I think that they fairly bring out the point that he is making.) To avoid these horrors we are obliged to ascribe to the Whole another aspect in virtue of which it is also *Natura Naturans*. (e) In this aspect the Whole is seen to be something which "is conceived wholly through itself." It is "active," and "logically prior" to the aspect of *Natura Naturata*. The Whole, in its aspect of *Natura Naturans*, produces a reproduction of itself, in its aspect of *Natura Naturata*, in each of the infinitely numerous individual parts of *Natura Naturata*, e.g., in Prof. Hallett and in a hydrogen atom in their measure. And, in so doing, the Whole, in its aspect of *Natura Naturans*, constitutes both the individual parts and *Natura Naturata* as a whole.

Perhaps the reader will agree with me in finding it easier to see what the difficulty is than to see why we should have got into it or to understand the proposed method of getting out of it. Prof. Hallett gives a summary of his argument on pages 149 to 151, and the best that I can do is to summarise this. (a) We start with the epistemological datum that we know ourselves to be finite and incomplete embodied minds. (b) This leads us to the notion of a complete system of extended and thinking reality, conceived on the analogy of ourselves, but all-inclusive and infinite. (c) At this stage we have to account rationally for the ontological position in this system of the datum from which we started, viz., ourselves, who are and know ourselves to be incomplete and finite parts of a complete and systematic whole. (d) The ultimate cause of the existence of parts which have such knowledge of themselves and of the whole cannot be the other parts, and cannot be the whole considered simply as a system of interrelated parts. (e) It also cannot be anything outside this whole, since the latter is all-inclusive. Therefore (f) we are forced to distinguish an aspect of the whole in respect of which

it "possesses existence as a right, and does not merely enjoy it as a gift."

(2.1) *The Attributes*.—Spinoza, not content with ascribing to the one Substance the two Attributes of extension and thought, ascribed to it an infinite number of other Attributes, of which we know nothing. This doctrine has generally been dismissed by commentators as merely the expression of a natural desire to pay compliments to the One. Prof. Hallett, on the other hand, takes it seriously; and it is, no doubt, reasonable to suppose that Spinoza must have meant something serious by it.

One of the commonest objections to Spinoza's doctrine of the infinitely numerous attributes is that it destroys the alleged parallelism by making the attribute of thought contain infinitely more modes than any other attribute. Prof. Hallett sees clearly that any satisfactory theory must obviate this objection. I am going to state what I take to be his theory in my own way. The theory which I shall state certainly does obviate the objection, and I am pretty certain that it is the theory which Prof. Hallett has in mind.

Let us begin by considering four attributes, Thought (T), Extension (E), X, and Y. Consider that mode of extension which is my body. I shall denote it by the symbol m_1^{ET} . This is to mean a certain mode *in* the attribute of extension, which is *the object of* a certain mode in the attribute of thought. The latter mode will be denoted by m_1^{TE} , and, since it is the idea of my body, it will be my mind. So far all is plain sailing. Smith's body would be denoted by some such symbol as m_2^{ET} , and Smith's mind would be denoted by the symbol m_2^{TE} .

We must now consider the other two attributes X and Y. In order to preserve the parallelism of the attributes, and to reconcile it with Spinoza's statement that there is in the attribute of thought an idea of every mode in every attribute, we must make the following supposition. In the attribute of extension there must be, in addition to my body m_1^{ET} , three other modes intimately associated with it. These may be symbolised by m_1^{EX} and m_1^{EY} and m_1^{EE} respectively. In the attribute of thought there must be three other modes, associated with m_1^{TE} , viz., m_1^{TT} , m_1^{TX} , and m_1^{TY} . Similarly in the attribute X there must be four associated modes, viz., m_1^{XE} , m_1^{XT} , m_1^{XX} , and m_1^{XY} ; and, in the attribute Y, there must be the four associated modes m_1^{YE} , m_1^{YT} , m_1^{YX} , and m_1^{YY} . Exactly similar remarks apply, *mutatis mutandis*, to the mode which is Smith's body and the mode which is Smith's mind.

Let us now illustrate these suppositions in a table :—

	E	T	X	Y
E	m_1^{EE}	m_1^{ET}	m_1^{EX}	m_1^{EY}
T	m_1^{TE}	m_1^{TT}	m_1^{TX}	m_1^{TY}
X	m_1^{XE}	m_1^{XT}	m_1^{XX}	m_1^{XY}
Y	m_1^{YE}	m_1^{YT}	m_1^{YX}	m_1^{YY}

It is obvious that the scheme outlined above can be extended to any number of attributes. In order to make the statement of the theory perfectly clear it will, I think, be convenient to distinguish between a "total mode" of a given attribute, and the "mode-factors" which together constitute this mode. Thus I should call m_1^{EE} , m_1^{ET} , m_1^{EX} , and m_1^{EY} , in my example, "mode-factors" which together make up a single "total mode" of extension, which might be symbolised by m_1^E . In general we shall have

$$\begin{aligned} m_1^E &= \phi(m_1^{EE}, m_1^{ET}, m_1^{EX}, \dots) \\ m_1^T &= \phi(m_1^{TE}, m_1^{TT}, m_1^{TX}, \dots) \\ m_1^X &= \phi(m_1^{XE}, m_1^{XT}, m_1^{XX}, \dots) \end{aligned}$$

Here m_1^E represents a certain total mode in the attribute of extension, m_1^T represents the corresponding total mode in the attribute of thought, m_1^X represents the corresponding total mode in the X-attribute, and so on. The expression on the right-hand side of each equation represents the inner structure of each total mode considered as a unique kind of unity "composed of" mode-factors.

Two points must be carefully noted. (i) On this theory what would commonly be called "my body" is not a total mode of extension, such as m_1^E , but is a certain mode-factor in this, viz., m_1^{ET} . Similarly, what would commonly be called "my mind" is not the total mode of thought, such as m_1^T , which corresponds to a certain total mode of extension, such as m_1^E . What is commonly called "my mind" will be a certain mode-factor

in m_1^T , viz., m_1^{TE} , which corresponds to the mode-factor m_1^{ET} in m_1^E . (ii) Since it is an essential part of Spinoza's theory that there are ideas of ideas, as well as ideas of modes in other attributes than thought, it is necessary to assume that there is a similar duplication in every attribute. This has been represented by introducing such mode factors as m_1^{EE} , m_1^{XX} , etc.

There is no doubt that the scheme which I have just developed does formally solve the problem of reconciling Spinoza's four doctrines that there is complete parallelism between the attributes, that the number of attributes is infinite, that there is in the attribute of thought an idea of every mode in every attribute, and that there is an idea of every idea. If, as I believe, this scheme is, in essentials, the theory which Prof. Hallett has excogitated and stated in his book, he is to be congratulated on having found the answer to a difficulty which goes back to Tschirnhausen and has been a common-place of all Spinoza's critics since.

Two questions remain. (i) Can we attach any concrete interpretation to this abstract scheme, or is it a mere formal curiosity? (ii) Is there any reason to suppose that *Natura Naturans* has the very complex structure implied in this scheme?

As regards the first question Prof. Hallett says, no doubt rightly, that our only possible clue is the relation between the only two attributes with which we are acquainted, viz., thought and extension. Here the relation between a mode-factor in one attribute and its correlate in the other attribute is the absolutely unique relation of an idea to its ideatum. The relation between the corresponding mode-factors in *any* two attributes, e.g., between m_r^{XY} and m_r^{YX} , will be *analogous* to the relation of idea to ideatum; we can therefore say of it that it will be asymmetrical, that it will be *sui generis*, and that it will be incompatible with the causal relation. But this is all that we can say of it. The "reflexive" mode-factors in each attribute, e.g., m_r^{XX} , must be thought of by analogy to the ideas of ideas, such as m_r^{TT} . Unfortunately, as I have said, I have failed to understand Prof. Hallett's account of Spinoza's doctrine of the *idea ideae*, and therefore the symbol m_r^{EE} , e.g., is one which I cannot interpret even by analogy.

We can now pass to the second question. Why did Spinoza think that there must be an infinite number of attributes interconnected in this peculiar way? Prof. Hallett's answer may be put as follows. (a) We know empirically that there is more than one attribute, for we know that there are at least the two attributes of thought and extension. (b) Moreover, careful

reflexion on the nature of thought alone would suffice to show that there must be at least one other attribute. For the essential peculiarity of any mode of thought is to have an object. And, although apparently its object can sometimes be *itself*, and, even when it is not itself can be another mode of *thought*, yet it seems obvious that there must be ideas whose objects are not themselves ideas. The objects of such ideas must be modes of some other attribute, and so there must be at least one other attribute. (c) Now there is something radically contingent in any universal having a finite plurality of instances. If the property of being an attribute had exactly two instances, we could always raise the question: "Why *two*, rather than three or forty-seven?" Now such questions ought to be absurd about anything so ultimate as the attributes of the one Substance. (d) Such questions can be avoided if and only if a universal is such that either (i) it *could* have only a single unique instance, or (ii) it *must* have an infinite number of instances arranged on some systematic plan. (e) In the case of the property of being a substance, in Spinoza's sense, the first alternative applies. But it cannot apply in the case of the property of being an attribute, since we know that there is more than one attribute. So the only alternative is that it must follow from the general conception of "attribute" that there must be an infinite number of attributes forming a systematic whole.

This is probably as convincing an argument as could be produced in support of Spinoza's views on this point. The only comments which I will make are the following. Why was Spinoza so sure that thought is, in his sense, an attribute; and, if so, why was he so sure that there is complete parallelism between the modes of all the attributes? It has always seemed to me that the reasons *for* the first of these propositions are, in their measure, reasons *against* the second. If one were arguing in favour of thought being a genuine attribute, against an Emergent Materialist who insisted on the facts which suggest that mentality is an emergent property of certain very complex material processes, one would presumably insist on the utter disparity between the nature and unity of mind and the nature and unity of material things. But, in proportion as one did this, it would surely be difficult to hold that there is a complete parallelism between the modes of thought and the modes of extension. One would be forced to consider how much appearance of truth there is in Johnson's remark that the material realm is fundamentally monistic, whilst the mental realm is fundamentally pluralistic.

Prof. Hallett does not throw much light on the difficult question of what precisely Spinoza meant by an "attribute", and how precisely he supposed the infinitely many attributes to be related to the one Substance. We are told that Substance "consists of", but is not "qualified by", its attributes. It is indeed perfectly plain that Spinoza did not mean by "attributes" supreme determinable qualities, such as being extended, being cognitive, etc., though there is some intimate connexion between each of the attributes and a different one of these supreme determinable qualities. But the phrase "consists of", when used in this connexion, conveys nothing definite to me.

We are also told that each attribute is a "transcript" of the whole Substance, and that it is only because the number of attributes is infinite that Substance "is the unity of its transcripts *without remainder*". I do not think that this metaphor of "transcripts" helps us at all. A transcript is a copy or reflexion of something *in* some medium. When the notion of a medium is removed, and when that which is transcribed is identified with the sum-total of its various transcriptions in nothing, surely nothing remains but meaningless verbiage.

(3) TIME, DURATION, AND ETERNITY.—I have deferred till the end this subject, which Prof. Hallett treats at the beginning. It is, of course, in a sense, the main theme of his book; but I doubt whether his treatment of it can be understood until one has grasped those parts of his theory which I have been trying to expound.

(3.1) *Duration and Time*—By "duration" Spinoza means temporal extent, as distinct from any particular numerical measure of it. When two processes, *e.g.*, one swing of a certain pendulum and one revolution of the earth on its axis, are compared in respect of their durations, we get a numerical measure of the duration of the one in terms of that of the other. Such numerical measures of one duration by comparison with another are called "times" by Spinoza.

There is no natural or intrinsic measure of duration. For (a) there is no intrinsic unit, such as one complete circle would be in the measurement of angles. (b) There is no intrinsic maximum or minimum of duration. (c) Durations are not discrete series, each composed of a finite number of successive temporally unextended terms. And, lastly, (d) the duration of any particular natural process, or the time for which any finite thing lasts, is contingent on its relations to other processes and things. Prof. Hallett concludes from these facts that,

even if the Whole had duration, there would be no numerical measure of its duration, and therefore "time", in Spinoza's technical sense of the word, would not apply to it.

It seems to me quite certain that this conclusion does not follow from these premises alone. For the premises do not entail that the duration of the universe, if it had duration, would be endless, either a *parte post* or a *parte ante*; and it is only on this supposition that the duration of the universe would have no numerical measure. If it were possible that the universe should have a beginning and an end, then all that would follow from the premises is that its duration would have *many different* numerical measures, *e.g.*, M years, N pendulum beats, and so on, and that it would be meaningless to single out one of these and call it "*the* time for which the universe lasts". Plainly there is nothing of the slightest metaphysical interest in this perfectly trivial fact.

The next point that Prof. Hallett makes is this. There is an essential difference between duration and spatial extension. If the universe has duration, then it is, in this respect, *intrinsically* divided into a past stretch, a present momentary state, and a future stretch, though at every different moment the division is at a different point. There is no such *intrinsic* division in an extended universe. Now it is alleged by Prof. Hallett that the Whole could not be divided in this way, and that this is one reason why Spinoza denied duration to the Whole although he ascribed extension to it. Another peculiarity of duration is that there can be no duration without succession, and no succession without change. It is alleged that "change cannot be predicated of the Real, which can lack nothing and surrender nothing". So Prof. Hallett concludes that the universe, taken as a collective whole, cannot have duration.

Before passing on I will make the following comments. (i) I agree that there is a fundamental distinction between duration and extension, and that it is bound up with the distinction of past, present, and future, which is essential to the former and has no analogue in the latter. (ii) The statement that succession involves change is ambiguous. If it means *qualitative* change, it seems to me doubtful. If it means change in respect of *temporal* characteristics, I agree; but it then adds nothing to the first contention, *viz.*, that duration is divided at every different moment in a different place. (iii) I do not understand in detail Prof. Hallett's grounds for holding that the universe as a collective whole cannot be divided and cannot change in the particular way in which it would have to be divided and to

change if it had duration. But I suppose that the *prima facie* difficulties could be put fairly plausibly as follows.

(a) If the universe had duration, it could have neither beginning nor end, and yet could not be cyclic. Now it is difficult to see how any existent whole could have the structure of an endless open series, for this seems the very negation of wholeness.

(b) At any moment the past is non-existent, the future is non-existent, and the present is instantaneous. And what is instantaneous seems plainly to be an ideal limit, and not a possible existent. So the ascription of duration to the whole seems to be suicidal.

(iv) Undoubtedly these *prima facie* objections are the signs of very great and real difficulties. But is it not possible that the difficulty arises in part from the unexamined notion of the universe as a single individual whole? Spinoza and Prof. Hallett start from this and work throughout with it. It seems to me quite conceivable that this notion is illegitimate, and I am sure that it ought to be most carefully criticised before being used.

In Chapter II. Prof. Hallett criticises certain suggestions which have been put forward to obviate these difficulties. These are the doctrines of an All-inclusive Specious Present, of an Eternal Now, and of a Neutral Time-series.

The theory of an All-inclusive Specious Present breaks down for two reasons. In the first place, it seems impossible that, if the universe had duration, it should form a whole terminated at two ends with respect to duration. Secondly, the only specious presents that we know anything about must be regarded as moving through the course of events. For, within any specious present, the perceived past is continually slipping out at one end into the merely remembered past, and the merely anticipated future is continually slipping in at the other end into the perceived future. This kind of change would be impossible in a specious present which occupied the *whole* of duration, even if that were possible, and yet it is an essential factor in the notion of *temporal order*. It seems to me that another objection can be made also. It is part of the notion of a specious present that a certain characteristic, which we will call "presentedness" has a maximum value at a certain point in it, and tails off to nothing in two opposite directions within it, *viz.*, towards the point where the perceived past merges into the remembered past, and towards the point where the anticipated future merges into the perceived future. If we conceive the whole history of the universe as the content of a single all-inclusive specious

present, where is this point of maximum presentedness to be placed? It seems perfectly arbitrary to assign it to one momentary cross-section of the world's history rather than to another.

If an "Eternal Now" is something different from an all-inclusive specious present, the theory of an Eternal Now reduces to the absurd suggestion of everything being contained in a single durationless instant. This is not worth discussing.

The theory of a Neutral Time-series is the theory that there is an objective B-series (to use McTaggart's term) of events related by the relation of before-and-after, and that the distinction of past, present, and future (McTaggart's "A-series") is essentially relative to a percipient or agent. This theory is, or was, held by Bertrand Russell and by Mr. Braithwaite. Prof. Hallett agrees with McTaggart that the relation of before-and-after is inseparably bound up with the distinction of past, present, and future. His reason seems to be the following, if I may put it in my own way. In a series of successive events there is an *intrinsic* distinction of sense, *viz.*, the distinction between earlier-to-later and later-to-earlier. In a series of points on a straight line there is no such *intrinsic* distinction. The only intrinsic relation is the triadic relation of "being between". If we profess to analyse "*b* is between *a* and *c*" into "*a* is to the right of *b* and *b* is to the right of *c*", the distinction of sense which we have introduced, *viz.*, right-to-left and left-to-right, is not *intrinsic* to the straight line but refers to an external body with a right hand and a left hand. Now, according to Prof. Hallett, in the absence of the distinction of past, present, and future, nothing would be left but an *intrinsically neutral* order, like that of the points on a straight line, where the only intrinsic relation is an unanalysable symmetric triadic relation of betweenness.

The distinction between temporal and spatial order, which Prof. Hallett makes the premise of his argument, is valid and important. I am also inclined to think that his conclusion that the distinction of past, present, and future is an essential factor in temporal order is true. But I do not think that this conclusion follows from this premise alone.

(3.2) *Eternity*.—Spinoza defined "eternity" as the kind of existence which belongs to those entities whose existence follows necessarily from their essence or definition alone. He contrasts such things with others which only "enjoy" or "are endowed with" existence. The kind of existence which belongs to the latter is duration.

In the *Cogitata Metaphysica* the only existent which Spinoza allows to be eternal is God. In the case of God "essence" and "existence" are distinguishable only as shape and size are in a figure, and so God is eternal. In all other cases the essence might have lacked existence, and has to be "endowed with" existence, and so all other things have duration. In the *Ethics* Spinoza had definitely come to the conclusion that not only God but a certain part of each one of us (and indeed a certain part of *any* finite mode) is eternal. Before considering this peculiarly difficult extension of his doctrine we will make some comments on his definition.

(i) Prof. Hallett points out two negative facts, about which there can be no doubt. (a) Spinoza did not mean by "eternity" either endless future duration or endless past and future duration ("sempiternity"). (b) Although he sometimes illustrates eternal existence by reference to the being of necessary truths, this is intended *only* as an analogy.

(ii) It seems clear to me that Spinoza's "definition" of "eternity" is rather a description than a definition. It does not give us any analysis of the notion of eternity; it is more like "defining" the word "red" by saying that red is that kind of colour which characterises English pillar-boxes. I think that Prof. Hallett would admit this. For he points out that, in the *Ethics*, Spinoza alleges that each one of us perceives himself as eternal. And he says that, unless this were so, we could have no positive conception of eternity.

(iii) I am willing to admit the hypothetical proposition that, *if* there were any existent whose existence was a necessary consequence of its nature or definition alone, there could be no question of its beginning, ending, or enduring. Its existence would be of an utterly different kind from that of any existent whose existence is not a necessary consequence of its nature or definition alone. We might recognise this hypothetical fact, and give the name "eternity" to the peculiar mode of being of such things, if such there be, even though we had no positive conception of such a mode of being. But, unfortunately, in the only sense in which I understand the words "nature", "essence", or "definition", the word "existence", and the phrase "necessarily follows", the sentence "the existence of X follows necessarily from its nature, essence, or definition alone" either conveys nothing to me or conveys something which I can see to be false for all possible values of X. Presumably Spinoza and Prof. Hallett attach such meanings to these words and phrases that this sentence is for them not nonsensical and is not the

expression of a proposition which is plainly false for all values of X. If so, it does seem to me that Prof. Hallett should have given his readers some help in understanding these ancient technical terms, which were so important for Spinoza, and whose meaning has been lost since his time. Unless some explanation is offered to modern readers the best thing that could happen to "essences" is to be corked up for good in their bottles and relegated to the shelves of the Scholastic store-cupboard.

(iv) It seems to me that I can collect from Spinoza's own writings and from Prof. Hallett's book some idea of the sources of their distinction between the mode of existence of God and the mode of existence of other things. I suspect that the course of their thought is somewhat as follows. (a) In the case of any ordinary structural universal, such as the characteristic internal unity of a man or of a cat, you can say that it "enjoys" or "is endowed with" existence at any place and throughout any duration in which a portion of matter is organised in the form of a living man or a living cat. Such universals can have indefinitely many manifestations, and the occurrence of each particular manifestation is conditioned in date, position, and duration, by previous or simultaneous manifestations of other universals. (b) Now none of these notions has any application to the characteristic of being a universe. It is nonsensical to suppose that there might be several universes, or to talk of the characteristic of being a universe as manifested in a certain place between certain limits of time through the operation of external causes. (c) Spinoza and Prof. Hallett assume without question that the universe is an individual unity of the most highly organised kind, and that its characteristic internal structure is such that it could not be exactly reproduced in anything else. If we call this unique type of structure "the nature or essence of the Whole", we can transfer to it all the negative statements which we have just made about the characteristic of being a universe. We can say that the existence of the Whole is *not*, like the existence of this man or that cat, a manifestation of its nature in a certain place for a certain duration determined by external causes. We can say that the nature of the Whole *does not* derive its embodiment in its unique instance from anything *other than itself*. (d) Finally, I think that Spinoza and Prof. Hallett pass from the negative statement made in the last sentence to the positive statement that the nature of the Whole *does* derive its embodiment in its unique instance *wholly from itself*. (It seems to me that Axiom I of Book I of the *Ethics* is equivalent to the

assumption that any manifested nature which does not derive its manifestation from something else does derive it wholly from itself.)

Now, of the four propositions which I have just stated, the first two are true and important; the third is intelligible, though I cannot see that Spinoza or Prof. Hallett has produced any reason for believing it; but the fourth is to me completely unintelligible. Of course I recognise that we must distinguish the following two propositions: (i) "I know, with regard to the Whole, that its nature *must be* such as to involve its existence", and (ii) "The existence of the Whole can be seen by me to follow from its nature as known to me". I cannot suppose that anyone in his senses would assert the second of these propositions. But, provided that the first were intelligible, it might be true even though the second were false. My trouble is that I find even the first and milder of the two completely unintelligible, and that I can derive no help from Prof. Hallett's book towards understanding it.

(3·21) *The Eternity of Finite Modes*.—Having said what little I can about the meaning of "eternity" and the alleged eternity of the Whole, I will pass to the still harder subject of the alleged eternity of finite modes. I will begin with the following general observation.

Prof. Hallett praises Spinoza's definition of "eternity" for "its ingenuity and real potency for its work" (p. 70). I cannot, however, see how it could possibly be a satisfactory definition of "eternity" if this is to be predicable of anything but the Whole. Surely Spinoza did *not* think that the existence even of any infinite mode, still less the existence of any finite mode, "follows necessarily from its essence or definition *alone*". I should have thought that, when Spinoza came to the conclusion that finite modes are eternal, he ought to have widened his definition in somewhat the following way. He might have said that "eternity" is the kind of existence which belongs to any entity whose existence follows necessarily either (a) from its nature alone, or (b) from its nature together with that of something which answers to clause (a), or (c) from its nature together with that of something which answers to clause (b), or (d) so on. . . .

I will now collect certain statements of Prof. Hallett's about Spinoza's doctrine which seem to me to be certainly true. (i) Spinoza talks almost exclusively about the eternity of the *human mind*. But he must have held that the human *body* is eternal in precisely the same sense, whatever that may be, in which he held the human *mind* to be eternal. (ii) Again, he cannot have

meant to confine the eternity of finite modes to those particular finite modes which are *human* individuals. (iii) By the "eternity of the human mind" he did not mean the eternity of some supposed "general mind" or of "humanity" or of "science", or any such nonsense. He meant the eternity of this and that man. (iv) He held quite definitely that *only a part* of a human individual is eternal. In the case of the human mind, one's intellect and its objects are eternal, but one's imagination and its objects begin, endure for a period, and cease. Any satisfactory interpretation of Spinoza's doctrine must fit in with these four propositions.

Prof. Hallett's theory, if I understand it aright, is as follows: Homogeneous finite modes, such as P_{nn} , $P_{nn, nn}$, and so on, are all of them eternal. Heterogeneous finite modes, such as P_{nm} , $P_{nm, ns}$, etc., are all temporal. They begin, persist for a time, and cease. I am not perfectly clear whether he thinks that those modes which are Primary Parts, such as P_n , are eternal or not: for, of course, the distinction of homogeneous and heterogeneous does not apply to them. It is certain that P_n will have an eternal first-order Secondary Part, viz., P_{nn} , and also infinitely numerous temporal first-order Secondary Parts, such as P_{nm} . If, as I am inclined to think, Prof. Hallett regards human beings as Primary Parts, the question is settled. For we are definitely told that human beings are not, *as wholes*, eternal, but only have an eternal part.

It must be noted that, on Prof. Hallett's theory, every part of the universe which is *eternal* has a set of parts of the next order which are all *temporal* except one which is eternal. Consider, e.g., the homogeneous first-grade secondary part P_{nn} . Since this is homogeneous it is eternal. It has a set of second-grade secondary parts, of which one and one only, viz., $P_{nn, nn}$, is homogeneous and therefore eternal. All the rest, viz., parts like $P_{nn, nm}$, are heterogeneous and therefore temporal. We might call $P_{nn, nn}$ "the eternal second-grade part of P_{nn} ", and we might lump together the heterogeneous second-grade parts of P_{nn} under the name of "the temporal second-grade residue of P_{nn} ". Now exactly similar remarks will apply to every stage of the hierarchy. Thus $P_{nn, nn}$ will consist of an eternal third-grade part and a temporal third-grade residue. It follows that P_{nn} itself can be analysed into this eternal third-grade part together with the temporal third-grade residue and the temporal second-grade residue. And this process can be continued without end, since the hierarchy of descending grades of secondary parts is endless. It would seem to follow that, although every eternal

part of the universe has an eternal part as well as a temporal residue, yet it can be analysed in such a way that its eternal part is as small as we please and its temporal residue is as near as we please to exhausting the whole eternal part with which we started. I do not know whether Prof. Hallett has recognised this consequence of his theory, or whether, if he admitted it, he would regard it as an objection.

On Prof. Hallett's theory, whilst every eternal part is composed of a smaller eternal part and a temporal residue, the converse does not hold. No temporal part of the universe has an eternal part. For any part of the universe which is temporal will be either a single heterogeneous secondary part or a group whose members are all heterogeneous secondary parts. Now no heterogeneous part can have homogeneous parts lower down in the hierarchy, and only homogeneous secondary parts are eternal.

I believe the above to be *one* interpretation which can plausibly be put upon *some* of Prof. Hallett's statements. Whether it is an internally consistent theory, and whether it accords with the facts, I find it impossible to conjecture for the following reasons. (a) As I have already said, I have no clear idea as to what sort of things are supposed to answer to the description of "homogeneous secondary parts" of various orders. At the most I have a vague picture of various fundamental "rhythms" interfering with each other, and thus superimposing upon each other "perturbations" of the first, second, and higher orders. (b) I have no positive idea of "eternity", even as applied to the Whole, and still less as applied to parts of the Whole. I therefore am not clear *what sort of things* are supposed to be eternal, or *what is being asserted of them* when they are said to be "eternal". (c) Whatever a homogeneous Secondary Part may be, it seems difficult to believe that it could have a set of parts, one of which is homogeneous and the rest of which are heterogeneous. In the particular case of ideas, this would imply that a clear idea has a set of parts, one of which is a clear idea and the rest of which are confused ideas. I do not say that this is impossible; but it is certainly not very plausible, and I think that we have the right to ask Spinoza and Prof. Hallett to provide some examples or analogies in order to illustrate what they have in mind, and some reasons for believing that their suggestions are at least *possible*. If they would go further, and tell us why they think their theory to be not only possible but *true*, we should be under even greater obligations to them. For I suppose that we can reasonably ask more of our constructive metaphysicians than

to spin us ingenious, intelligible, and self-consistent fairy-tales about the universe. (d) Whatever "eternal" may mean, it seems difficult to believe that anything that was eternal as a whole could have a set of parts, one of which is eternal and the rest of which are temporal. Once more I do not say that this is impossible, since I do not understand the meaning of the term "eternal". But I do think that we ought to be given some chance of understanding what the statement means, some analogies or illustrations to enable us to see that it is possible, or some reasons for thinking it to be true.

The above account of Prof. Hallett's theory is based mainly on his statements on pages 209 to 215, and especially page 213. I am very doubtful, however, whether it is either the whole truth or wholly true about Prof. Hallett's view. It is certainly difficult to reconcile it with the obviously important, but extremely obscure, remarks which Prof. Hallett makes on pages 120 to 127, where he is considering how a whole would appear to itself, to one of its own parts, and to a more inclusive whole which contained it and more besides. The question, to my mind, is whether Prof. Hallett means to assert that the heterogeneous secondary parts *really are* temporal or not. In my interpretation I have assumed that he does mean to assert this. But many of his statements seem to imply a different view, which might perhaps be summed up in the following propositions.

(i) *Natura* as a whole, and all its parts, whether primary or secondary, homogeneous or heterogeneous, are *in fact* eternal. (ii) *Natura* as a whole, and any of its parts, will, under certain conditions, inevitably be *misperceived as* temporal. (iii) When either *Natura* as a whole or any homogeneous part of it is misperceived as temporal it will be misperceived as *sempiternal*, and not as having finite duration. (iv) When any heterogeneous secondary part is misperceived as temporal it will be misperceived as of *finite* duration, and not as *sempiternal*. Thus, heterogeneity in an object is the real foundation of its appearing to be of finite duration, and homogeneity in an object is the real foundation of its appearing to be *sempiternal*. But the question remains: "What is the condition under which an object, which is in fact eternal, will be misperceived as temporal?" Presumably this condition must be in the nature of the percipient, or in the relation of the percipient to the object, and not simply in the nature of the object.

The answer to this question is to be found, if anywhere, in the discussion on pages 120 to 127. Here Prof. Hallett considers a number of individuals A, B, C, and D, of which B is a "real

part" of A, C is a "real part" of B, and D is a "real part" of C. We are told that A is to stand for the *Facies Totius Universi*, and that B might be a human body as it really is, whilst C might be the "little worm living in the blood" which Spinoza gives as an example in *Epistle xxxii*. And then we are told various things about how each would appear to itself, to the whole which contains it, and to the part which it contains. Unfortunately I find it impossible to discover what is the relation of these A's, B's, C's, and D's to the P's which are so elaborately symbolised and discussed on pages 209 to 215. Presumably B, at any rate, is meant to be a primary part, and therefore to be the sort of thing which is symbolised by P_m . But what are we to say of C and D? Are they also primary parts, in descending order of dignity? Or are they secondary parts of different grades? And, if they are secondary parts, must they be homogeneous, or may they be heterogeneous; *i.e.*, must C be of the form P_{mm} or may it be of the form P_{mn} ? No information whatever is supplied on any of these points, and I have failed to elicit from Prof. Hallett's statements any answer which satisfies me. If we take C, D, etc., to be primary parts, we shall have to assume that one primary part can be completely contained in another. Prof. Hallett has certainly said things which imply that primary parts may overlap; but he has said nothing to suggest that one may be wholly included in another, though I do not think that he has ever explicitly denied this. Again, it is plainly assumed that the relation of C to B and of D to C is analogous to the relation of B to A. Now A is the *Facies Totius Universi*, and B is, so far as I can make out, a primary part. It would seem to me that the only parts of a primary part which stand to it in an analogous relation to that in which it stands to the *Facies Totius Universi* are its homogeneous first-grade secondary parts. On this view C would be P_{mm} , D would be $P_{mn, mn}$, and so on. But it is extremely difficult to see that the "little worm in the blood" could answer to the description of a homogeneous secondary part of a human organism; and I have found it impossible to interpret Prof. Hallett's statements on pages 120 to 127 on the present hypothesis as to the nature of C and D.

As I have failed to discover, or to construct for myself, any coherent synthesis of Prof. Hallett's various statements about the relation of time to eternity, I can do but little to help the reader at this point. Let us confine our attention to A and B; for we know that A is the *Facies Totius Universi* and we have strong reason to believe that B is a primary part, P_m . I will

now state what I conjecture to be Prof. Hallett's view about B's cognition as regards time and eternity.

It will be remembered that P_m contains a set of clear reproductions, $p_{m1}, p_{m2}, \dots p_{mm}, \dots$ of all the primary parts of the *Facies Totius Universi*. P_m also contains a set of confused reproductions $\pi_{m1}, \pi_{m2}, \dots \pi_{mm}, \dots$ of all the primary parts of the *Facies Totius Universi*. Corresponding to the first set there is a clear intuition in P_m 's mind of the *Facies Totius Universi* as an eternal system of eternal extended parts, and of his own body as one of these eternal primary parts. Corresponding to the second set there is a confused perception in P_m 's mind of the *Facies Totius Universi* as a sempiternal historical process, consisting of transactions between parts, including his own body, which are all of finite duration.

Supposing that the above is, so far as it goes, a correct interpretation of Prof. Hallett's theory, the following criticism must be made. Consider those three primary parts of *Natura Naturata Extensa* which are the bodies of my grandfather, of my father, and of myself. When clearly perceived, these would be seen to be, as they in fact are, eternal. Viewed *sub specie temporis*, the first appears to begin before the second and the second to begin before the third, and the first appears to end before the second and the second to end before the third. Now the three eternal primary parts must stand in *some* important non-temporal relation to each other, corresponding to this temporal relation in which they seem to stand to each other when they are misperceived as bodies of finite duration. What is this non-temporal relation? No theory of time and eternity which cannot give a plausible answer, at least in outline, to such questions is worth serious consideration. I have failed to discover in Prof. Hallett's book any intelligible answer to such questions, or any clear recognition of their fundamental importance.

It is probably futile for me to attempt to interpret Prof. Hallett's theory about C and D, the less inclusive parts in the descending hierarchy; for, as I have said, I have no clear idea as to whether C and D are supposed to be primary parts, or to be secondary parts of the first and second grade respectively. The most plausible interpretation is that C is the homogeneous first-grade secondary part of P_m , viz., P_{mm} . This will contain a set of clear reproductions $p_{mm, m1}, p_{mm, m2}, \dots$ of all the first-grade secondary parts of P_m . It will also contain a set of confused reproductions, $\pi_{mm, m1}, \pi_{mm, m2}, \dots$, of all the first-grade secondary parts of P_m . At this stage there enters a complication which was not present in the case of B and its relations to

A. B was a primary part, and the other parts of A were primary parts ; so the distinction between homogeneity and heterogeneity did not enter. But, on the present supposition, C is a homogeneous secondary part and the other parts of B are heterogeneous secondary parts. Now, as I have said, it is not clear to me whether Prof. Hallett holds that heterogeneous secondary parts *really* are temporal, or whether he holds that they are really eternal and are misperceived as being of finite duration when they are misperceived as being temporal.

Suppose we take the second interpretation. Then, corresponding to the set $p_{mm, m1}, p_{mm, m2}, \dots$, there would be in P_{mm} 's mind a clear intuition of P_m as an eternal system of eternal first-grade secondary parts, and of himself as the only homogeneous one of these parts of P_m . Corresponding to the set $\pi_{mm, m1}, \pi_{mm, m2}, \dots$, there would be in P_{mm} 's mind a confused perception of P_m as a sempiternal whole consisting of one sempiternal part, viz., P_{mm} himself, and a residue of parts each of which is of finite duration.

It is idle for me to pursue further these speculations about Prof. Hallett's possible meaning. I have, I think, made it abundantly clear either that Prof. Hallett has no coherent theory of time and eternity ; or that, if he has, he has lamentably failed to state it intelligibly ; or that I am quite exceptionally stupid. Once more a comparison with McTaggart is almost inevitable. In the second volume of the *Nature of Existence* he treated the same extremely difficult and absolutely fundamental problem as Spinoza and Prof. Hallett are treating. He made many very paradoxical statements, and it is unlikely that his theory is either well-founded or true. But he did at least see clearly what are the appearances that have to be "saved", and he did try to show in detail what are the real features of the eternal which correspond to the most characteristic apparent features of the temporal. And, whenever he put forward a paradoxical suggestion, he did insist on our facing the fact that it was paradoxical, he did try by means of analogies and illustrations to enable us to grasp it and to see that it is not impossible, and he did state exactly why he thought that it must be accepted in spite of its paradoxical character. Surely this is the only sound method of procedure.

I have no wish to end with odious comparisons or on a note of ungracious criticism. Prof. Hallett's book is a very important contribution to philosophy in general and to the study of Spinoza in particular, and I am aware of having learned a great deal from it and of being greatly stimulated in trying to

think out his theories for myself. The defects which I have indicated are, I think, partly the consequences of that continual converse with Spinoza's system which has enabled Prof. Hallett to write about it with an authority which perhaps no other Englishman except Prof. Joachim could claim. When the rest of us read Prof. Hallett's book we are rather in the position of comparative strangers staying with a family who try to explain to us some complicated bit of family history, and constantly forget that we have no idea who "Uncle Stephen" was, that we do not know that "Aunt Susan" lived all her married life in Liverpool, and that we are uncertain whether "Seggie" was a country-house or a family-butler or a Scotch terrier. If we visit the house again and again, we shall probably be able to piece together most of the story; and, perhaps, if we return again and again to Spinoza's works after reading Prof. Hallett's book, much that is now obscure and seemingly arbitrary will become plain to us.

III.—ARISTOTLE'S DOCTRINE OF SUBSTANCE.

BY D. R. COUSIN.

IN view of the inevitable references, in current controversy about Substance,¹ to the doctrine as it is taught by the originator of the whole problem, it may not be inappropriate to attempt once more to thread that well-worn but still perplexing maze.

Two points are worth raising at the outset. In the first place, it must not be assumed that there is in Aristotle any doctrine which can properly be summed up in the word "substance", taken in its modern connotation. While it may be possible to isolate certain aspects of the Aristotelian doctrine of "being-ness" or essence which have an obvious affinity with the ideas connoted by the word "substance", and which are indeed the source of these ideas, it is a misrepresentation to speak as if these formed in Aristotle's mind an independent and self-contained body of doctrine. The meanings of *οὐσία*, of which two main varieties are explicitly recognised by Aristotle himself,² interpenetrate one another, and are to be treated, as they were by him, as forming the subject of a single integral inquiry. I shall not, therefore, attempt to improve on the convention, but shall use "substance" as the translation of *οὐσία* in all its senses.

There is, however, a distinction, corresponding in some degree, though not at all points, with the two senses already mentioned, the recognition of which is necessary if this discussion is to be brought within any reasonable bounds. This is the distinction between "substance" as an absolute term, exemplified in the question "Is this a substance, or another kind of thing?", and "the substance of", a relative term, intelligible only in connection with a dependent genitive and exemplified in the question

¹ E.g., Miss Stebbing's paper *Concerning Substance* in Proceedings of the Aristotelian Society, N.S., vol. xxx., 1929-30, pp. 285 ff. I shall refer to this as *Substance*.

² *Met.*, v., 8, 1017b, 23. Substance is (1) the ultimate subject, and (2) whatever is a "this" and also separable.

"What is the substance of this? Wood? Or earth? Or a numerical ratio? Or a function in relation to some whole or activity?" That these two conceptions are different is, I think, obvious. Their difference may be roughly indicated by saying that the affinity of the first is with the doctrine of categories, that of the second with the doctrine of the four causes and of "nature" (*φύσις*). I propose to confine myself at present, so far as possible, to the analysis of the former: What does Aristotle mean by a substance?

Secondly, there is the question of the relative authority of the texts. Those whose field of work is the history of philosophy cannot, perhaps, regard the disputed authorship of the first book of the *Organon* as confirmed in favour of the founder of the Lyceum; but for students of logic and metaphysics "Aristotle" is the Aristotelian Corpus. We are justified, therefore, in beginning, as Miss Stebbing does, with a text from the *Categories*.

I.

"Substance in the truest and primary and most definite sense of the word is that which is neither predicable of a subject nor present in a subject."¹ This appears to be offered as a definition of substance, and the suggestion is confirmed by comparison with *Metaphysics*, Book V., c. 8.²

It is to be observed, however, that these two passages do not completely correspond. In the *Metaphysics* we are told only that substance is subject of predicates but not itself a predicate. In the *Categories* we are told that substance is not a predicate, and also that it does not inhere in anything else. That is to say, in the *Metaphysics*, and so far as I know everywhere else except in the *Categories*, Aristotle does not distinguish between "being predicable of a subject" and "being present in a subject", and probably he generally has in mind those predicates which in fact do inhere in a subject.³

But in this passage of the *Categories* Aristotle does draw the distinction between "being predicable of a subject" and "being present in a subject", and we must ask what he means by it.

¹ *Cat.* 5, 2a, 11. I follow Miss Stebbing in the matter of translation in this case, but I have not always sought authority for my renderings.

² 1017b, 13, 14. It is *because* they are not predicates that they are called substances.

³ "White" is said to be predicated of the body in which it inhere (*Cat.* 5, 2a, 31). The *ἀτομα*, however, are not, it seems, predicable of the subjects in which they inhere (*ibid.*, c. 2, 1b, 6-9).

The doctrine is no doubt connected with what he says in the *Topics*¹ about predication *ἐν τῷ τί ἐστί*. A predicate *ἐν τῷ τί ἐστί* is the definition of its subject, or the genus to which it is stated to belong. Now in such cases the predicate does not inhere in the subject of which, in this sense, it is predicated, though they may both inhere in something else. Thus, "man" is predicated of the individual man, but does not inhere in him ;² and science, which inheres in a soul, is not inherent in grammar, of which it is predicated.³ Further, the subject of such predication may be in any category ; it may be a particular white colour as well as a particular man.⁴ It follows that by the fact of not being predicated of anything else a primary substance is not distinguished from things in other categories, but is distinguished from "secondary substances", the genera and species of which it is an instance.⁵ I shall return to the doctrine of "secondary substance" at the end of this paper.

In saying that a substance is that which does not inhere in a subject, Aristotle is contrasting it with things in other categories, viz., with quantities, qualities, relations and the like. What he means is explained in his own words as follows : " By being ' present in a subject ' I do not mean present as parts are present in a whole, but being incapable of existence apart from the said subject." ⁶ Just how we are to think of the relation between a thing and that without which it cannot exist, however, is a question of some difficulty, which it is part of Miss Stebbing's purpose to state, and which will to a great extent occupy us here.

Miss Stebbing holds that Aristotle, like common sense, combined in the notion of substance two notions which it is not logically necessary to combine, namely the notions of a logical subject and of a persistent entity that remains unchanging through change.⁷ The purpose of her paper, if I understand it rightly, is to offer an accurate formulation of the second of these elements, and to vindicate its necessity to our conception of what is. The passage from the *Categories* quoted at the outset, on the other hand, is introduced with the statement that " The doctrine of the logical subject is Aristotle's doctrine of ' primary

¹ *Topics*, i., 5, 102a, 32-35 ; 9, 103b, 27-29.

² *Cat.* 5, 3a, 10.

³ *Cat.* 2, 1b, 1.

⁴ *Topics*, i., 9, 103b, 17-35. Cf. *Cat.* 2, 1a, 27 to b, 3. Aristotle does not expressly say that the particulars are subjects of predication, though he denies them to be predicates. But *γραμματική* is a subject, and so, presumably, is the particular of which it would be predicated *ἐν τῷ τί ἐστί*.

⁵ *Cat.* 5, 2a, 11-19. Aristotle's examples of a primary substance are *ὁ τίς ἴππος*, *ὁ τίς ἄνθρωπος*.

⁶ *Cat.* 2, 1a, 24-25.

⁷ *Substance*, pp. 285-286, 288-289.

substance'". This means, I suppose, that while Aristotle, as his examples show, meant by a substance a concrete individual, what he defined was what Miss Stebbing means by a logical subject. How far this view is justified is a question which can only be settled in the light of a clear understanding of what Miss Stebbing does mean by a logical subject. I have not been able to satisfy myself about this,¹ and it is not my purpose to discuss the point here. But I should like to be allowed to make some observations about two points which arise out of what immediately follows in her paper. These concern the conception of substance as underlying everything else, and the assumption that every proposition can be expressed in the subject-predicate form. To the former of these points I shall return later.

II.

Meanwhile I wish simply to consider Miss Stebbing's second point in its bearing on Aristotle. In criticising this assumption, Miss Stebbing has in mind certain "philosophies of substance", by which she means "metaphysical systems based upon the category of substance-quality". In so far as this means that the systems criticised are based *explicitly* on the "category of substance-quality", the criticism is not, I take it, intended to apply to Aristotle. For he could not, of course, found a system upon a conception which he had never explicitly entertained, and which he would not have recognised as a category.² But the criticism is intended to direct our attention to certain consequences alleged to follow from a doctrine which Aristotle can hardly be denied to have held, and it accordingly calls for some comment. The doctrine that every proposition can be properly expressed in the subject-predicate form, it is alleged, is equivalent to the assertion that every fact consists in the inherence of a quality in a substance, from which it is to follow the Monistic conclusion that there is only one substance.³

By way of comment, I wish to argue that we do Aristotle less than justice if we think that he believed every proposition to state about a substance that a quality inheres in it. To think so is to neglect the distinction, in the definition we have just

¹ Neither "Subject" nor "Predicate", unfortunately, appears in the index to Miss Stebbing's *Modern Introduction to Logic* (I shall refer to this as *Logic*), and the discussion of the term "subject" on pp. 34-35 is embarrassed by the number of traditional errors with which it is contrasted.

² On Aristotle's doctrine about categories, cf. below, pp. 323 and 334-5.

³ *Substance*, p. 289.

quoted, between being "present in" a subject and being "predicated of" a subject. In the sense to which predication is here restricted, the predicate is expressly denied to inhere in the subject.¹ Further, the sub-classification of propositions *ἐν τῷ τί ἐστι* by reference to the doctrine of Categories shows a majority of nine cases in which the subject is not a substance to one in which it is.²

There is also a more important aspect of the doctrine of Categories that is neglected by this way of thinking. Whether we regard this doctrine as a classification of the essential being of ten different kinds of thing,³ or as a classification of ten different ways in which one and the same thing (if it is a "primary substance") may "be"⁴—and it is both—, it does represent an attempt, if not an altogether successful attempt, to avoid saying that every proposition states that a quality inheres in a substance.

Aristotle's doctrine, then, is neither that the subject of every proposition is a substance; nor that the predicate of every proposition inheres in a subject; nor that the predicates which do inhere in a subject are all of them its qualities.

I may be told that while Aristotle did not base his system explicitly upon the category of substance-quality, he did so implicitly. The assumption that he did so, it may be said, is alone able to account for the fact that he maintained the analysis of the proposition into two constituents and two only, and for his treatment of qualities, relations, etc., as all alike inherent in a subject. In face of these facts, it may be held, the doctrine of categories can be no more than a classification of qualities, their distinctions no more fundamental than that between, *e.g.*, colour and heat.

But this view of the doctrine of categories is still, I think, not free from misunderstanding. We have seen already that one thing may be predicated of another in a wider and in a narrower sense. A further observation must now be made about Aristotle's meaning in speaking of "predicates". Predicates differ from what may be called "characteristics" in this, that whereas a characteristic is a fact, or an element in a fact, a predicate is an element in what we say about a fact.⁵ Within what we say about facts a distinction arises which does not

¹ *Cat.* 5, 3a, 7-15.

² *Topics*, i., 9, 103b, 27-35.

³ *Ibid.*

⁴ *An. Post.*, i., 22, especially 83a, 21-23; 30-32; b, 11-15.

⁵ Modern logicians who wish to discuss the proposition in abstraction from the act by which it is propounded ought to find a less misleading title for what, it seems, is still called predication.

correspond with a distinction in the facts themselves, but which belongs to the history of our thinking about these facts. This is usually expressed by contrasting "what we are talking about" with "what we say about it".¹ The difference is variously formulated, but for present purposes we may roughly distinguish an object as we already knew it from that element in its being, our new discovery of which is expressed in the statement.² What makes this important here is that "what we are talking about" is called the subject, "what we say about it" the predicate. On the side of the facts, the distinction between qualities and relations is obvious and important; and, as I have tried to point out, it was recognised by Aristotle. On the side of this subjective distinction, however, qualities and relations may both alike be predicates. Thus the proposition *Brutus killed Cæsar* is normally about Brutus and would be said to have *Brutus* for its subject, in the sense that the proposition belongs to our biography of Brutus and not to that of Cæsar. (Where in fact *Cæsar* is the subject, we should regard *Brutus killed Cæsar* as an inversion of *Cæsar was killed by Brutus*.)³ *Killed Cæsar* is as much a predicate—something newly discovered about Brutus—as *was the noblest Roman of them all*. It is true that the analysis of this subjective distinction by Cook Wilson and Mr. Joseph⁴ leads to a point at which "subject" and "predicate" are used of things to which Aristotle would not have applied them. He would not have recognised that if *Brutus* is to be sole subject of *Brutus killed Cæsar* then *glass* must be, by the same token, predicate of *Glass is elastic* when elasticity has been the subject of inquiry.⁵ Thus we find him laying it down that the term "predication" is properly to be restricted to those propositions in which one term really (objectively) is subject to the other, *i.e.*, is a substance.⁶ But I am not maintaining that Aristotle had carried the analysis of this distinction to its conclusion. Rather, my point is that

¹ This is more accurately expressed, as Cook Wilson has argued, by distinguishing "what we are talking about" from "what it is asserted to be" (*Statement and Inference*, vol. i., p. 116).

² Cf. Cook Wilson, *op. cit.*, p. 122.

³ Miss Stebbing (*Logic*, p. 39) touches on this subject, but without, I think, appreciating its importance.

⁴ Cook Wilson, *Statement and Inference*, vol. i., part ii., cc. iv., v., and vi.; Joseph, *An Introduction to Logic*, 2nd Ed., p. 166.

⁵ I borrow the illustration from Cook Wilson, *loc. cit.*, p. 119.

⁶ *An. Post.*, i., 22, 83a, 1-18. (The problem is partly obscured by the ambiguity in Greek of the neuter adjective with the article.) Aristotle does not mean that every proposition must have a substance for its subject, but only that *if* a substance is involved along with something else in a proposition, *then* the substance must be the subject.

he had not differentiated it from the objective distinction between substance and the other categories. No doubt this confusion was due to his formulating logical and metaphysical problems in terms suggested by a starting-point in distinctions that are properly speaking grammatical. But it is to this confusion, and not to that of relations with qualities, that we should ascribe his view of the proposition as having two constituents only, of which the one is predicable of the other. The objective distinction, to the influence of which is due his doctrine that the substance, where there is one, must be subject in the proposition rather than any other kind of thing, remains to be investigated.

III.

This brings us to the conception of substance as underlying everything else. Aristotle's language, as Miss Stebbing points out, sometimes suggests that he thinks of the substance as a substratum, having an unknown nature of its own independently of the attributes which are inherent in it.¹ That this is not his only view, Miss Stebbing recognises. Relying on a passage in which the Provost of Oriel points out what Aristotle cannot have meant by saying that a substance can exist "apart", she concludes that Aristotle "intended to assert *both* that a substance, or individual thing, *must* have qualities, *and also* that this individual thing is *other* than any one of its qualities and *other* than the sum of its qualities".² I should like to be allowed to supplement this conclusion by drawing attention to what Aristotle says about the "subject" in the *Metaphysics*.³

Aristotle's argument here is very confusing. The suggestion that substance is the subject is the first to be discussed among a number of possibilities. Aristotle's main argument appears to be as follows. We must not identify substance with the subject, because to do so involves its identification with matter, and we know on other grounds that matter is not substance.

(1) The identification of substance with the subject involves its identification with matter. In saying this, Aristotle is working out to what he considers an unacceptable conclusion the tendency criticised by Miss Stebbing as leading to the empty notion of substance as the support of qualities, etc. What we have, he says, is bodies, and the attributes, effects or capacities which

¹ *E.g. Cat.*, 5, 2b, 37.

² *Substance*, p. 288; Miss Stebbing's italics. She refers to Ross, *Aristotle's Metaphysics*, vol. i., p. xci.

³ Book VII., c. 3.

belong to them.¹ But bodies can themselves be analysed into length, breadth and depth, which are not substance but quantity,² and therefore as such presuppose a substance to which they belong. But the only thing left to which they can belong, if we are to distinguish what belongs from that to which it belongs, is matter. "Matter" here is simply a name for that which, being nothing in itself, is said to be everything else "potentially". This is one of the few places where we hear of an "absolute" matter, which is matter not merely in relation to the particular form which happens for the moment to be occupying our thoughts, but in relation to form of any sort whatever.

(2) Matter is not substance. The reason for this is that we believe substances, more than anything else, to be "separable" and to be "this-somewhats". To these criteria of substantiality I shall return in the last two sections of this paper. Just now, I will comment on the first point and then indicate a qualification in Aristotle's whole criticism.

In the line of thought which leads, according to Aristotle, to the identification of substance, taken as the subject, with matter, we see what was perhaps an inevitable result of his theory of the proposition. Since the juxtaposition of words was supposed to represent a combination in thought,³ that which is said to be something was supposed to be "in itself" not that. This over-emphasis upon the moment of diversity in the judgement is in part, I think, due to the confusion of the objective with the subjective aspect of predication; the A about which we think, taken as we know it before we say that it is B, is in relation to B indeterminate, and the indeterminacy may be indefinitely great. It is also, no doubt, due to "the reaction of Aristotle's *Metaphysics* upon his logic".⁴ In particular he is influenced by his preoccupation with the problem which the antithesis of form and matter, on its physical side, is designed to solve: the problem of change and of coming-to-be. We might represent the effect of this tendency upon the definition of substance somewhat as follows: Substance, as the subject of predication, is that which is said to become something else; its predicates are what it is said to become.

The conception of matter thus reached is not, Aristotle thinks,

¹ 1029a, 12.

² Note the origin of the device on which Thomas Aquinas relies in his account of trans-substantiation.

³ *Met.*, vi., 4, 1027b, 18 ff.; *De An.*, iii., 6, 430a, 27; 8, 432a, 11.

⁴ *Substance*, p. 286. It has been suggested to me, I presume rightly, that Miss Stebbing means "Aristotle's metaphysics".

to be identified with substance. But it is a perfectly distinct conception, and its importance in the development of natural science needs no illustration. Its distinct character remains unaffected, moreover, even if it should be shown that ultimate matter will never be identified because it is essentially no more than a "limiting concept".

From his rejection of the explanation of substance in terms of the subject, it is clear that Aristotle was fully aware of the dangers of the line of thought which draws too sharp a distinction between subject and predicate. But his rejection is not unqualified, and we shall misunderstand him if we take it so. What he says is that substance must not *only* be defined as the subject. This seems to mean that we must not define it as subject without explaining what we mean by subject. For, as he says, the subject is itself not clear.¹

Now at the very outset of his argument he had identified the subject with matter, form and their compound.² Superficially, this is in open contradiction with his conclusion, that substance is not the subject, because in that case it would be matter, but is rather form or the compound. To avoid this contradiction we must suppose Aristotle to mean that "subject" would naturally be understood as a "matter" or substratum, but has also less familiar senses, in which it is equivalent to form and the compound (or individual). When he passes from the discussion of matter to that of form and the compound, he is not rejecting altogether the identification of substance with the subject. Rather his point is that it must be subject in the way in which form and the compound, rather than matter, are subject—that is, in a way which does not exclude separability and being a "this-somewhat".

The doctrine that the subject is equivalent in one sense to matter, in another to form and in a third to the compound of these is repeated in Book VIII., c. 1,³ and is alluded to in Book VII., c. 13.⁴ And Aristotle discusses the three aspects in turn, matter in Book VII., c. 3, form in cc. 4-6 and 10-12, and the compound in Book VIII. The passage in Book VII., c. 13, suggests that the way in which the subject underlies that of which it is the subject differs in each case. If this is what Aristotle meant, it is obviously important.

Unfortunately, in his discussion of form or essence in *Met.* VII., Aristotle gives us hardly any light upon the sense in which it is a subject. His interest is rather in the way in which it satisfies

¹ 1029a, 10.² 1029a, 1.³ 1042a, 26.⁴ 1038b, 5.

the other conditions of substantiality. The individual compound of form and matter receives even more unsatisfactory treatment. The reason is that it is of quite minor importance in a discussion of First Philosophy. The aim of that discipline is the apprehension of individuals which are not compound, but pure or immateriate forms. For the metaphysician the only interest of the compound individual lies in the aspects of form and matter distinguishable within it, and these are accordingly the aspects with which Aristotle deals.

The only light we have on the way in which form underlies that of which it is the subject is to be found in the passage already referred to from c. 13, a brief résumé of the preceding discussions. Aristotle reminds us that we have spoken "both about the essence and about the substratum, of which we have said that it underlies in two senses, either being a 'this'—which is the way in which an animal underlies its attributes—or as the matter underlies the complete reality".¹ I do not think that Dr. Ross is certainly right in thinking, as he seems to do,² that "this" refers to the concrete individual.³ The reference is to what has up to that point been discussed, and this is surely the subject as matter (c. 3), and as form (cc. 4-6, 10-12). The study of the compound individual, postponed in c. 3,⁴ is not resumed until VIII., c. 1.⁵ I should take the article⁶ to show, if anything, that Aristotle is here thinking of "animal as such" rather than of some instance of it. But however that may be, I think it is clear that "animal as such" *might* be taken to represent the form and might be asserted to be the subject in a sense distinguishable from that in which the compound individual is subject. With his doctrine here may be compared what Aristotle says about attributes which are universal, or (as we ought rather to say) commensurate, in the *Posterior Analytics*.⁷ We are there directed to beware of erroneously thinking that we have demonstrated of a species

¹ 1038b, 5-6. I quote from the translation by the Provost of Oriel (Oxford, 1928).

² *Aristotle's Metaphysics*, vol. ii., p. 164, n. on 1029a, 2.

³ For a parallel to the use of τὸδε τι in reference to a universal, cf. below, p. 333, n. 4.

⁴ 1029a, 30.

⁵ 1042a, 24.

⁶ ὥσπερ τὸ ζῶον τοῖς πάθεσιν. (Cf. *An. Post.*, i., 4, 73b, 3: ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τὰ τοιαῦθ' ἐκάστοις καθ' αὐτὰ λέγω, ὅσα δὲ μηδετέρως ὑπάρχει, συμβεβηκότα, οἷον τὸ μουσικὸν ἢ λευκὸν τῷ ζῳῷ. There is here no doubt that the reference is to the genus as such.) Aristotle might have said ζῶον τι, or τὸ τι ζῶον, if he had meant the individual, though the fact that he does not is no proof that he meant something else.

⁷ *An. Post.*, i., 4, 73b, 32-39.

characters which it shares with other members of the same genus. Thus we may prove that the interior angles of an isosceles triangle = two right angles. But this is not commensurate with "isosceles triangle", being in fact a property of "triangle as such", which, relatively to the species "isosceles triangle", is a genus. We have here then a genus, or at least not an *infima species*, which is a subject, and in its own right, in express contrast with its subordinate species, to say nothing of its particulars, is that to which certain attributes belong.

In speaking of the form as subject, Aristotle is no doubt influenced by the individualisation of the Forms which he criticises so often in Plato. The incorporation of this error in the tradition which derives from Aristotle has certainly had most unfortunate consequences, not least in obscuring the distinction between universal and singular propositions. But it must be remembered that Aristotle's doctrine here is that the form is subject in a *different* sense from that in which matter and the compound individual are subjects. That this corresponds to a true doctrine, though the form in which it is stated is perhaps unfortunate, I think Miss Stebbing would agree. While denying that "general propositions", e.g., *All squares are rectangles*, are "simple", she tells us¹ that "What is asserted is a connection between two properties or characteristics. These characteristics are considered apart from the particular things which have the characteristics." This, I think, is what Aristotle means here. Form is subject because it, rather than their common particulars, is that to which a predicate is relevant.

We have now accounted for the subject as matter and as form. Is the individual, as we might expect from the fact that it is compounded of form and matter, subject in both the senses now familiar, or does it underlie that of which it is the subject in a way of its own?

We cannot, I think, find such a special kind of underlying in the statement of the *Categories* that the chief and distinguishing peculiarity of substances is that "being the same and one in number they are capable of contrary determinations".² This statement certainly makes it clear that Aristotle includes in his conception of substance, as Miss Stebbing observes that he does,³ the notion of a persistent entity. In view of what we have seen about the meaning of subject, it does not appear that this is an addition to the doctrine that substance is the subject. But so far as permanence is characteristic of the individual, this must

¹ *Logic*, pp. 43-44.

² *Cat.*, 5, 4a, 10.

³ *Substance*, p. 286.

be in virtue of the aspect of matter contained in it. Indeed, in *Met.*, viii., the fact that change implies a substratum is adduced as an argument to show that matter is substance.¹ The alternative would seem to be that the individual should share the way of being a subject proper to the two elements of which it is constituted. It will underlie its attributes as form in so far as its nature determines them. And it will underlie the changes which it undergoes, including the change of coming to be and passing away, as matter or the potential underlies form. The former way of being a subject is shared by sublunary substance with the eternal, pure forms; the latter is of course peculiar to sublunary, i.e. material, substance.

I have tried in this section to show that while Aristotle does at times speak of substance as a substratum or matter, he recognises, much more explicitly than Miss Stebbing has made clear, the objections to this way of speaking. The sense in which we ought to think of an Aristotelian substance as other than its predicates, singly or in sum, has still to be determined.

IV.

In this connection, I cannot refrain from referring to another phase of Aristotle's doctrine of form and matter. In *Met.*, vii., c. 12, 1038a, 5-9, it is suggested that the genus is matter relatively to the species. That is, the species is constituted through the determination of the relatively indeterminate genus by the differentia. The analogy, if indeed it is not something more, with the grades of determinateness in the physical stuff of which things are made is clear enough.

Now in the *Categories* we are told that the individual, the species and the genus stand in descending order of substantiality.² Expressing this in terms of the form-matter antithesis, the logic of the analogy and common sense combine to suggest that if the species consists in the determination of the genus, then the individual should be the still more concrete determination of the species.

But we know that the species is predicated of the individual, and the genus of the species, not *vice versa*.³ Had Aristotle followed this up, he would have had to overcome the confusion of the subjective with the objective aspects of predication. So far as the subject of predication would still have been useful to him in framing his definition of substance, it must have been

¹ 1042a, 32 to b, 3.

² *Cat.*, 5, 2b, 7 ff.

³ *Ibid.*, 2b, 20.

taken to be the individual in its concrete reality, not in the partial indeterminacy in which it is known to us. Instead of being that which, in the process of our discovery of it, acquires a determination which it hitherto possessed only potentially, it would have had to be the determinate whole which includes such and such distinguishable aspects in its own identity. Predication, in relation to a subject so understood, would have had to be regarded, not as a synthesis of elements in themselves distinct, but as a discrimination of elements in themselves united.¹ Such an account, it seems, would have avoided the irreconcilable conflict and contradiction between the identification of substance, on the one hand, with the concrete individual, and the identification of it, on the other, with the subject of predication, regarded as something in itself indeterminate. Conceived in this way, the subject would have been regarded as other than its predicates in the sense in which a system is neither any one of its parts, nor their mere aggregate, but their unity.²

I cannot, of course, maintain that a doctrine like this was explicitly formulated by Aristotle. But I think the evidence shows that his mind moved in a direction which would have led him to formulate such a doctrine, but for certain opposing and stronger tendencies. Apart from such considerations as that he had read the *Sophist*, with its emphasis on the *otherness* of subject and predicate, but had not, like Bradley, read Hegel, the chief reason is to be found in his view of the demonstrative sciences. Having established them on a pedestal from which the admission of their abstractness would have brought them down, he was forced to conform his view of reality to the requirements of their equilibrium. That which could be expressed in what we now call laws was to be alone knowable. The individual therefore was to be as such unknowable, and consequently unreal—not, that is, non-existent, but real only as *potentially* something determinate, or *in so far as* it is something determinate. That which distinguishes the many individuals from the form which they share becomes accordingly matter, something in itself unknowable,³ i.e., intelligible only in virtue of that which it becomes. Hence Aristotle abandons both common plausibility

¹ Thus matter is in a sense predicated, though the verbal expression is oblique, of that into which it enters as an element (*Met.*, ix., 7, 1049a, 18ff., cf. vii., 7, 1033a, 5).

² Cf. *Met.*, vii., 16, 1040b, 5: Φανερόν δὲ ὅτι καὶ τῶν δοκουσῶν εἶναι οὐσίῳν αἱ πλείους δυνάμεις εἰσὶ, τὰ τε μόρια τῶν (φῶν . . . καὶ γῆ καὶ πῦρ καὶ ἀήρ· οὐδὲν γὰρ αὐτῶν ἓν ἐστίν, ἀλλ' οἷον σωρός, πρὶν ἢ πεφθῇ καὶ γένηται τι ἐξ αὐτῶν ἓν. Also iv., 2, 1003b, 22-33; vii., 12, 1037b, 10 ff.

³ *Met.*, vii., 10, 1036a, 8.

and his own suggestion in the *Categories* of the order of increasing determinateness, concreteness and reality : genus, species, individual. While admitting that the species plays the part of form to the genus as matter, he reverses the order at this point, and makes the individual consist in the embodiment of the specific form in "ultimate matter".¹ He thus preserves the reality, knowability, and, in that sense, substantiality, of the species, but at the cost of shattering the individuality of substance except in the case of such species as are from their nature incapable of embodiment in matter, viz., God and the intelligences which move the heavenly spheres.

V

In the two remaining sections of this paper I will take up the criteria of substantiality in deference to which Aristotle, as we have seen, rejects the identification of substance with the subject taken as matter. I will begin with the notion of substance as "this-somewhat".

I follow Professor J. A. Smith² in understanding both words as general. Thus, as he says, "*τόδε τι* would mean 'anything which is both a this and a somewhat', the two characterisations being co-ordinate. *x* is *τόδε τι* if it is both (a) singular and so signifiable by 'this' and (b) possessed of a universal nature, the name of which is an answer to the question *τί ἐστὶ* in the category of *οὐσία* ; in other words *x* is a *πρώτη οὐσία*".

The way in which Aristotle thinks of the two elements of this term may be illustrated from the *Categories*. Contrasting secondary with primary substances,³ he comes to the suggestion that every substance is a "this-somewhat". His conclusion is that, strictly speaking, this description does not apply to "secondary" substances, because it implies a numerical identity in that to which it refers which is inconsistent with the character of the "secondary" substances as predicable of their instances. As predicates shared by a plurality of individuals, they resemble rather qualities.⁴ But they are not qualities in the ordinary sense, for while a quality means nothing but just quality (i.e., it is simple), secondary substances show *what kind of substance* a primary substance is.⁵ We might say that a primary substance is distinguished, as *τόδε*, from a secondary substance ; and both primary and secondary substances, as *τι* rather than *ποῖόν*, from quality.

¹ *Met.*, vii., 1035b, 30.

² *Cat.*, 5, 2b, 29 ff.

³ *Classical Review*, xxxv., p. 19.

⁴ *Ibid.*, 3b, 15.

⁵ *Ibid.*, 1, 21.

The vague and inconclusive way in which Aristotle expresses himself here suggests that he is struggling with a notion for which he has not yet been able to find words, though he is aware of its existence. He approaches it perhaps more nearly when he says that the distinguishing characteristic of substance is its numerical identity in contrary determinations.¹

As we have seen,² this characteristic is elsewhere attributed to the aspect of matter in the individual. It is perhaps legitimate to combine this point with the hint that substances differ from qualities in not being simple. If they unite contraries, they may *a fortiori* unite elements which, though different, are not incompatible. The obviousness of this is presumably the reason why Aristotle does not mention it. For surely it is obvious that this is precisely what does distinguish a substance from other things. A body, *e.g.*, unites a diversity of mutually compatible qualities, primary and secondary, size, shape, colour, taste, etc.—all this in addition to the combination of incompatible qualities which is made possible by persistence through time. My present contention is that, however imperfectly the aim may have been achieved, it is to the existence of such systems that Aristotle's doctrine of substance is designed to call attention.³

We are now, perhaps, in a position to understand what Aristotle means by his doctrine of "secondary" substance. The doctrine raises the question how there can be a "category" of substance. A category is a kind of predicate, whereas a substance, it appears, is a kind of subject. How then can there be a category of substance?

If the doctrine of primary substance is intended to call attention to the existence of individual systems, the recognition of universal as well as singular or individual substances corresponds to the fact, which it must be admitted is not without its importance, that these systems are, within limits, repeated. Hence, while in the *Categories* Aristotle restricts the term $\tau\acute{o}\delta\epsilon\ \tau\iota$ to primary substances, he clearly feels that the affinity with them of secondary substances would be understated if these were represented as merely $\tau\omicron\iota\acute{o}\nu\delta\epsilon$. Elsewhere, moreover, he is less squeamish, and allows himself to apply the term $\tau\acute{o}\delta\epsilon\ \tau\iota$ to a predicate (which must of course be a universal).⁴ The same use, indeed, seems to be implied in the statement that form, as well as the concrete

¹ *Cat.*, 4a, 10 ff.

² *Cf.* above, pp. 329-30.

³ *Met.*, vii., 16, 1040b, 5 (p. 331, n. 2), suggests that Aristotle thinks of substances as being also wholes of (qualitatively or functionally diverse) parts.

⁴ *Met.*, ix., 7, 1049a, 34; *cf.* vii., 13, 1038b, 5.

individual, is more likely than matter to possess the criteria of substantiality.¹

Another forcible expression of the intimate relation between primary and secondary substances is the title given to the first category in the *Topics*² and in *Metaphysics*, vii., c. 1.³ In both passages it is called not only *οὐσία*, but *τί ἐστι*. Two observations upon this rather curious usage suggest themselves.

In the first place, what does the passage in the *Topics* imply about primary substance? When we compare a series of predications *ἐν τῷ τί ἐστι*, the category of the predicate in each case varies with the nature of the subject.⁴ In saying that a man is "a man" or "an animal", we are using the category of substance; in saying that a white colour is "white" or "a colour", we are using the category of quality; and so on. Now if the category of the predicate depends upon the nature of the subject—and the argument appears to be that it does—it is clear that the subjects must differ among themselves. They cannot therefore be characterless "in themselves". Applying this rule in the case of substance we have yet another tendency in Aristotle's thought which forbids him to think of a primary substance as other than its qualities, separately or together, in any sense which could lead to its identification with sheer indeterminate matter.⁵

Secondly, what is implied in the use of *τί ἐστι*, which properly speaking expresses the nature of a relation asserted between the subject and the predicate (*i.e.* it should be a predicable), as the name of a category? While it is a way of speaking which is liable to produce confusion, it is sufficiently natural. For the subjects of predication in other categories are of dubious independence, and all imply some substance as the subject to which

¹ *Met.*, vii., 3, 1029a, 27. It is possible, but does not seem likely, that Aristotle is thinking here of immaterial substances.

² *i.*, 9, 103b, 22.

³ 1028a, 11.

⁴ In this passage the subject of predication *ἐν τῷ τί ἐστι* is not said *ὑποκείσθαι*, but *ἐκκείσθαι*. "Object" would perhaps represent what is meant.

⁵ It may be objected that Aristotle's language leaves it uncertain that the differing subjects which he has in mind are in fact individuals. His words might apply equally well to the species. But in what sense could the species be said to be predicated of itself? Certainly if Aristotle had held a Nominalist view, he might have meant that its *name* was predicated of it. But Aristotle was not a Nominalist, though his language sometimes suggests it (*e.g. Cat.*, 5, 3b, 10). It seems more likely that he should speak of a thing as predicated of itself when he means that its species is predicated of an individual, for that, after all, is what the individual *is*, and Aristotle had a tendency to think it was nothing more.

they belong. As we have seen, Aristotle was mainly interested in propositions in which an assertion is made about a substance.¹ If we regard propositions where the subject is not a substance but a particular attribute as irregular, it will be the case that in regular propositions the category of substance and the predicate *ἐν τῷ τί ἐστί* coincide.

The danger of this way of speaking, however, is that it may lead us to think that categories as such consist in a relation between subject and predicate. We are led to speak in Aristotelian contexts, to which the idea is foreign, of the category of substance-quality, and so on. In so speaking, we suggest that by a category Aristotle means something like a form of judgement, and I suppose we might say that the statement *The carpenter is making a table* is in the category of substance-effect. The objection that this would involve a number of other and still less probable pairs of correlatives might, it is true, be met in some cases by reducing one to another. The form substance-substance, *e.g.*, might be treated as a case of substance-quality. But it is clear that in carrying out this sort of readjustment we should be led very far from the Aristotelian doctrine of categories, however great the satisfaction to be derived from our approach to that of Kant. For Aristotle, the categories are classes into which things fall in virtue of their own nature. This fact gives rise, certainly, in relation to the substances upon which, in one sense or another, all predicates are dependent, to the quite different distinction of substance and accident. What is predicated of a substance may be either its substance—its *τί ἐστί*—or one of its accidents. But that is another story.

VI.

It remains to follow up the second of the characteristics which distinguish substance from matter and also from things in other categories. The first was "thisness"; the second is separability. Whatever can be said to be a substance is so called because it is capable of separate existence. The first question which rises to the lips is "Separate from what?" I do not say that Aristotle would have always given the same answer, or even that the question, in that form, is always capable of an answer.

¹ *An. Post.*, i., 22, 83a, 1-18. It is true, however, that he does not here seem to be contrasting predication in the strict sense with the case where both subject and predicate are in categories other than substance, so much as with that where the predicate is in the category of substance and the subject in some other: *e.g.*, *The white (thing) is wood*.

But in a majority of cases the answer is "Separate from matter",¹ and implies that Aristotle is thinking of the substance "of" a thing, or of those substances which, being immaterial, are identical with their species. This can hardly, however, be what is meant here, where we are discussing, not the immaterial substances, but the physical ones. Dr. Ross is no doubt right in saying that a substance implies qualities, etc., but not as something outside it which it needs in addition to its own nature.² Aristotle can hardly mean that a substance can exist in complete independence of everything else, including all other substances. For only the First Cause is thus independent, yet Aristotle clearly believes in a plurality of substances. But presumably he would not have thought of the dependence of one substance upon another in the same way as of the dependence on a substance of its predicates. A substance is capable of separate existence in the sense that it includes in its own being the diversity of ways in which a thing must be determined if it is to be an actual thing. As Kant might have said, it contains in itself a synthesis of elements in accordance with all the categories.

Comparing the two marks of substantiality, we might say that "thisness" points rather to the internal complexity of the individual, "separability" to its completeness and self-sufficiency.

I will conclude with a brief summary. I have tried to defend Aristotle against the charge of having made his definition of substance depend upon contrasting it solely with qualities, and to explain his appearance of doing so by his failure to distinguish objective or metaphysical distinctions from others which arise in the history of our private thinking. I have tried to establish the following points. Aristotle expressly rejects the identification

¹ Cf. *Met.*, vi., 1, 1025b, 28 to 1026a, 16; vii., 2, 1028b, 30; xii., 1, 1069a, 34. I cannot believe that Schwegler is right in reading *χωριστὰ* for *ἀχώριστα* in 1026a, 14. The sense of the passage as a whole demands the analogue of "snub" as opposed, in the illustration of which Aristotle is so fond, to concave. The syntax of the sentence must be due merely to the verbal form, the two privative words being opposed, although their sense is not. Schwegler is misled, here as elsewhere, by his conviction that *οὐσία* can in all contexts be rendered as *Einzelding*. But in this context, and in others like it, what Aristotle is thinking of is really the substance "of" a thing. He means the determinate character which in familiar instances requires for its existence embodiment in some parcel of matter (cf. *Cael.*, i., 9, 278b, 1), but which in those cases which form the special domain of philosophy is not dependent upon anything other than itself, which shall be, or rather become, determinate in that way.

² *Aristotle's Metaphysics*, vol. i., p. xci.

of substance with matter, as something other than the predicates which belong to it, in the sense of not being in its own nature determined by them. The distinguishing marks of a substance are its being a "this-somewhat" and its being capable of separate existence. He is not successful in formulating the relation of these criteria to the way in which substance is the subject, and tends, so far as his explicit doctrine is concerned, to fall back upon the distinction of matter and form, each of which may be said to be a subject, the one of change, the other of the characters which it determines. But there is evidence of a tendency to think of substances as systems, each of which unites a diversity of elements. To the explicit formulation of such a theory the chief obstacles were his theory of the proposition as expressing essentially a synthesis—a theory which itself rests upon the failure to distinguish subjective from objective aspects of predication—, and the influence of Plato upon his estimation of the status of the sciences.

IV.—MR. JOSEPH'S DEFENCE OF FREE THINKING IN LOGISTICS.

BY L. SUSAN STEBBING.

IN an article on 'A Defence of Free Thinking in Logistics' (MIND, October, 1932), Mr. Joseph criticises certain views, mainly due to Bertrand Russell, which I attempted to expound in my *A Modern Introduction to Logic*.¹ Mr. Joseph's style makes his article difficult to understand and renders any reply to his objections unpleasantly wordy. He has a queer way of introducing comparisons which are utterly irrelevant, and then using the comparison as though it constituted a reason for his view. I shall later have to give illustrations of this queer mode of argument. In spite of the fact that Mr. Joseph has numbered his paragraphs, his treatment of the topics discussed does not—so far as I can see—follow any ordered plan. Accordingly, I do not propose to follow his paragraphs *seriatim*, but to deal with them in the following order: (i) §§ 1-7, 10, 20-23, 19; (ii) §§ 17, 20-22; (iii) §§ 11-16; (iv) §§ 13, 14, 18, 8, 9; (v) § 24. Certain cross references are necessary, but it seems to me that Mr. Joseph's contentions can be best dealt with by taking the paragraphs in the order I have indicated.

(i) *Theory of descriptions*.—In §§ 1-7, 10, 20-23, Mr. Joseph is mainly concerned with Russell's theory of descriptions. Mr. Joseph's polemic is long and difficult to read; it is also rambling.

¹ Mr. Joseph mis-states the title of my book. I dislike the expression 'Modern Logic', and have tried to show that modern developments of the theory of logic are not opposed to Aristotle's theory. It is his misfortune, and ours, that later writers substituted elaboration of details for development of doctrine, and introduced into Logic the Aristotelian metaphysic. I agree with Mr. Joseph's statement (in the Preface to the first edition of his *Introduction to Logic*) that we must go back to Aristotle. Hence, I am surprised to find Mr. Joseph supposing that I include Aristotle among the 'Traditional Logicians'.

I am glad that in his article Mr. Joseph has attacked the views I tried to state and not wasted time over my own faulty exposition of them. It would be easy to ridicule what I said because I said it so badly. In this article I am not concerned to defend my own exposition, but to answer, so far as I can, the charges brought against the doctrines themselves.

But his main criticism is not difficult to answer, for it depends upon a gross confusion between a variable and a proper name. Both here and in his discussion of functions he shows a remarkable inability to grasp what a *variable* is, and what a *function* is. This failure of understanding on his part leads him to make a number of extraordinarily confused statements, some of which I have no space to comment upon in detail. It should be sufficient, however, to point out the root of these confusions, namely, his failure to understand the nature of the variable.

Throughout his first seven paragraphs Mr. Joseph concentrates upon the statement that 'a unicorn exists' means 'There is an object c which is such that ϕx is true when c is substituted for x '. There are two points to be discussed in his criticism: (A) his confusion between a variable and a proper name; (B) his interpretation of the words "such that" used in the second of the two expressions given above. Before dealing with these points I shall try to explain what—in my opinion—was the nature of the difficulty which led Russell to his theory of descriptions, and hence, what the significance of the theory is. Mr. Joseph is right in supposing that I do claim for this theory 'importance, accuracy, and truth', if by 'accuracy' he means accuracy of analysis. I do not see in what other sense a *theory* could be accurate. I admit, and indeed, wish to emphasise, that there are many careless inaccuracies of expression in Russell's various statements of the theory. These inaccuracies are repeated in my (one published) exposition of the theory, *viz.*, in chapter ix. of my book, with which Mr. Joseph's article is mainly concerned. These careless inaccuracies are disgraceful in the writings of a logician; I deeply regret having committed them, and, further, having added some of my own from which Russell's exposition is free. Mr. Joseph is not, however, concerned to point out Russell's (still less, my) inaccuracies. He confines himself to criticising the theory itself. Yet, it seems to me not impossible that careless exposition may have prevented some people—perhaps including Mr. Joseph—from understanding what the theory of descriptions is. I propose, therefore, to state first certain general considerations, which should be borne in mind.

The difficulty which, I think, led Russell to his theory of descriptions had its source in a mistake which logicians are prone to make, and which has given rise to many pseudo-problems. The mistake consists in a failure to realise how indirect is the reference of our ordinary linguistic expressions to the facts they are used to express. Owing to this mistake we are too ready to

rely upon grammatical form as a guide to logical form. At one time Russell himself was badly misled in this way. In 1903 he was prepared to take grammar as his guide.¹ In the following year he considered Meinong's theory of assumption and judgement and found certain difficulties therein.² In 1905 he overcame these difficulties, and in his article 'On Denoting'³ showed, for the first time, *how* it is that propositions which are about what would commonly be said to be *non-existent* objects could be both significant and false.

The first step is to realise how logically inappropriate are the sentences we ordinarily use. By a logically inappropriate expression I mean an expression whose linguistic form misleads us with regard to the logical form of what is expressed. All sentences in ordinary use have some degree of logical inappropriateness. Many ordinary sentences are logically inappropriate in a high degree since their linguistic form *conceals* the logical form of what is expressed, whilst *suggesting* an erroneous analysis of that form. Thus we should be misled if, holding that the sentence "Mussolini is an Italian" is used to assert that a specified individual is a member of a given class, we concluded that the sentence "Zeus is an existent" would be used to assert that a specified individual is a member of a certain class, *viz.*, *existents*. In like manner we may be misled if we rely, as a guide to logical form, upon the linguistic similarities in the following pairs of sentences: (a) "Zeus is a non-entity", "Shaw is a non-smoker"; (b) "Unicorns are unreal", "Daffodils are unscented". The purpose of the 'rigmarole' of which Mr. Joseph complains is to transform sentences having a high degree of logical inappropriateness into sentences less logically inappropriate. A sentence obtained by transformation might be criticised on either of two grounds, namely, that it was not more logically

¹ An important statement from *The Principles of Mathematics* (p. 42) may be quoted: 'Although a grammatical distinction cannot be uncritically assumed to correspond to a genuine philosophical difference, yet the one is *prima facie* evidence of the other, and may often be most usefully employed as a source of discovery. Moreover, it must be admitted, I think, that every word occurring in a sentence must have *some* meaning: a perfectly meaningless sound could not be employed in the more or less fixed way in which language employs words. The correctness of our philosophical analysis of a proposition may therefore be usefully checked by the exercise of assigning the meaning of each word in the sentence expressing the proposition. On the whole, grammar seems to me to bring us much nearer to a correct logic than the current opinions of philosophers; and in what follows, grammar, though not our master, will yet be taken as our guide.'

² MIND, N.S., 50, 51, 52.

³ MIND, N.S., 56.

appropriate, or that it was clumsy—a rigmarole. The latter is logically an irrelevant objection, though one that the logician might well take note of, in order that he might improve upon it, if possible. The former objection, however, could be usefully made only by some one who apprehended the logical form of the proposition expressed *both* by the original *and* by the transformed sentence. To determine to what extent a sentence is logically inappropriate it is first necessary to know what exactly the sentence is used to assert. To know what a sentence is used to assert is to know what must be the case if the sentence could be used to say what is true.

I hope it will be granted that we sometimes so use language that the significance of the sentence used depends upon there being something *directly presented*, and that what is thus presented could be indicated. Thus, if I say, 'Look! What is that?' the significance of what I say depends upon my being able to indicate, or point to, the reference of "that". No one could understand what I am referring to unless he could follow my indication. Most sentences are, however, used to refer *indirectly* to what is not presented. In such cases, what we refer to indirectly is referred to by means of sentences which are directly about properties possessed by what we refer to indirectly. For example, the sentence "A King of England was executed" is used to say something *directly* about the properties *being King of England* and *being executed* and *indirectly* about something which possesses those properties. For this reason the significance of the sentence is independent of there being anything to which the properties belong.

At this point it is desirable to comment upon the 'few words' which Mr. Joseph spends 'in passing, on the difference between a proper name and a demonstrative' (J. 424).¹ The first distinction I wish to emphasise is that between a demonstrative symbol, or phrase, and a descriptive symbol, or phrase. Ordinary language is essentially descriptive. It is for this reason that no non-general fact can be expressed. If we attempted to use a sentence not containing any descriptive symbol, we should be reduced to a set of pointings. In such a case, we could *say* nothing; we could only *point*. But sometimes the reference of what we say is made clear by pointing, and without this pointing the sentence *said* would fail of significance. As I pointed out in my book, to use a symbol demonstratively is

¹ All references to Mr. Joseph's article will be given as above. References to *A Modern Introduction to Logic* will be given as 'S,' followed by the page number.

equivalent to making a demonstrative gesture (S. 15 ; cf. 25). It does seem clear to me that there is this distinction in our use of phrases, notwithstanding the fact that no phrase is purely demonstrative. When I spoke of 'the ideal of demonstration' (S. 20), I was using "ideal" in the sense in which it is used in the expression "ideal limit". Pure demonstration is a limit of approximation. I said that, were it achieved, 'wit would be at an end'. I did not explicitly say that communication of *any kind* would be impossible, but I supposed that that would be clear from my statement that it is impossible to achieve simple demonstration 'unless verbal language can be supplemented by demonstrative gestures' (S. 16). It is a travesty of my statements to say, as Mr. Joseph says, 'The ideal is that of indicating the subject of which a statement is to be made with a mind blank to *what* it is until something has been said about it' (J. 424).

The second distinction to be mentioned is that between an ordinary proper name, on the one hand, and both descriptive and demonstrative symbols, on the other. There could not be an ordinary proper name which did not apply to a given individual. But such a name is not purely denotative; it is also descriptive, the descriptive element being due to certain properties belonging to the individual to whom the proper name applies.¹ "Zeus", as used in the sentence "Zeus does not exist", is not a proper name but an abbreviated description.²

A third distinction that must be borne in mind is the distinction between a *descriptive phrase* (as I have used this term) and a *description* (in the sense in which Russell speaks of indefinite, and definite descriptions). Evidently I did not make this distinction clear in my book, since it seems to have been generally overlooked. A description (in Russell's technical sense) *contains* a descriptive phrase, but is not *equivalent* to a descriptive phrase. Whether an expression is a description, or not, depends upon *how the expression is used*.³ An indefinite description is an ex-

¹ I do not think it is necessary to take up space here by repeating what I have said in my book, chap. iii, § 2.

² Russell has suggested that ordinary proper names are abbreviated descriptions. This seems to me a mistake. Some names which would commonly be called 'ordinary proper names' are abbreviated descriptions, e.g., "Zeus", "Polyphemus", as commonly used. But a proper name applied to a given individual is, in my opinion, neither a descriptive phrase nor a demonstrative symbol.

³ In my book I fell into Russell's mistake of defining a description in terms of a *form of words*, whereas it should be defined in terms of *how an expression is used*. This mistake was pointed out to me by Prof. Moore.

pression, containing a descriptive phrase, which is so used as to express an assertion to the effect that a certain property belongs to at least one thing. A definite description is an expression, containing a descriptive phrase, which is so used as to describe only one thing, if it describes anything. We might conceivably be acquainted with the reference of a descriptive phrase, but we could not possibly be acquainted with an object as *the one and only object* of a certain sort. It is for this reason that sentences containing descriptions, indefinite or definite, have a high degree of logical inappropriateness. Herein lies the need for the transformation of such sentences into what Mr. Joseph stigmatises as a 'rigmarole'.

Since Mr. Joseph ignores or denies the importance of the three distinctions I have been pointing out, it is not to be wondered at that he further falls into the egregious mistake of confusing a free variable with a proper name. At this point I return to the consideration of the statement to the criticism of which Mr. Joseph devotes most of his first seven paragraphs.¹ I have already said that there are two points in this criticism which call for comment. I will take them in order.

(A) In the expression "There is an object c which is such that ϕx is true when c is substituted for x ", it is not the case that c is a proper name, nor a symbol for 'any proper name or demonstrative' (J. 424). On the contrary, " c " is a variable, standing for any object having certain properties (*i.e.*, any object of a certain sort). Hence, it is *not* permissible to replace c by the proper name, *Hornboy*. When, therefore, Mr. Joseph replaces c by *Hornboy*, it is not surprising that the result is nonsense. But the nonsense is due to Mr. Joseph's misunderstanding, not to the analysis I gave. If Mr. Joseph is unable to see the difference between a variable and a proper name, then I am afraid that it

He also pointed out that "A unicorn is fond of cake" is not an example of an indefinite description; nor is "A Church in Rome is very large". I erroneously gave both these as examples of indefinite descriptions. Expressions *beginning* with a phrase of the verbal form "A so-and-so" are rarely used as indefinite descriptions. For example, "A cat is fond of milk" (Moore's example) certainly expresses an *A* proposition. "A poet was stabbed" is probably so used as to express an indefinite description. The point is, it depends upon *how the form of words is used*. In like manner, a phrase of the form "the so-and-so" may be used in a sentence expressing an *A* proposition, *e.g.*, "The whale is a mammal". Thus "the whale", in this sentence, is *not* a definite description. These mistakes in my exposition are not relevant, however, to Mr. Joseph's discussion.

¹ See p. 339 above.

is impossible to make him understand the expression containing *c*. In that case, he may justly remark that the transformation is not a *good* transformation *for him*; that any expression containing propositional functions is an *unfortunate expression*, since it confuses those who do not understand functions and variables. This, however, might be regarded as a criticism of style, an accusation of lack of 'good form'; it must not be offered as serious criticism of the analysis which the expression was used to reveal. Fortunately, there are other, and equivalent, expressions, some of which do not contain *c*. This brings me to the consideration of the second point mentioned above.

(B) Mr. Joseph devotes § 6 to a discussion of the words "such that", in a vain endeavour to elicit their meaning as used in the expression under consideration. This discussion is quite unnecessary, as Mr. Joseph would have seen had he noticed that on the same page I give *three* expressions, *all* of which are equivalent to 'A unicorn exists', and in two of these the obnoxious words "such that" do not occur. It is odd that Mr. Joseph makes no effort to quote my alternative 'locutions' on page 145; nor does he take any note of the hint, given on page 160, for still another 'locution'. I will, therefore, now give *four* expressions, each of which is a transformation of "A unicorn exists". These expressions are:

(a) "There is an object which has the property of *being a unicorn*".

(b) "There is an object *c* which satisfies the propositional function '*x* is a unicorn'."

(c) "There is an object *c* such that ϕx is true when *c* is substituted for *x*".¹

(d) "The property of *being a unicorn* belongs to something". No doubt expression (d) is the best transformation. The use of the language of propositional functions is not in the least necessary. It is unfortunate that Mr. Joseph overlooked (a) which, in my book, I gave first. The important point to stress is that *all four* are equivalent to the original. Hence, we have

¹ This is the expression which I think Mr. Joseph meant to quote, but he has put 'which is' between '*c*' and 'such'. I did not give Mr. Joseph's expression, but the difference between his and mine is not relevant to his criticism. In this expression " ϕ " must be understood as standing for "is a unicorn". Mr. Joseph did not notice that I gave (a) and (b) as equivalent to 'A unicorn exists', and then said that the proposition was *of the form expressed by (c)*. If (c) is taken as equivalent, the translation of " ϕ " must be stated. Expressions (a), (b) and (c) above are given in my book, p. 145; (d) is analogous to an expression I use on p. 160, and is due to Prof. Moore.

five expressions which all say the same, or, as it might otherwise be stated, have the same meaning, *i.e.*, express the same proposition. This being so, it is waste of time to argue about Mr. Joseph's interpretation of "such that". A word must be said, however, about his last remark in § 6. Mr. Joseph seems to suppose that (c)—the only expression he considers—is 'offered as a more correct statement of my thought in saying that a unicorn exists'. This is a complete mistake. None of the transformed expressions are offered as 'more correct' statements of my thought. None of them is 'more correct' than the original. The point is that each of the four transformations is less logically inappropriate to the form of what is expressed. The logician is concerned with analysing and revealing form; hence, he seeks expressions more appropriate to such revelation. This consideration is relevant to Mr. Joseph's remarks in § 7 also. I do not understand the expression 'the real meaning of the statement', for I cannot see that the contrast between 'real' and 'unreal' has any significance in relation to meaning. So far as I can follow what Mr. Joseph says here, I gather that he holds that, on Russell's theory, 'A unicorn exists' requires that 'Hornboy is a unicorn' should be true. This statement is due to the confusion between a variable and a proper name, upon which I have already commented. The same comment applies to § 10. Mr. Joseph's example referring to sawdust and bread shows how completely he has failed to understand the nature of the distinction between a *proposition* and a *propositional function*. The latter is an expression; the former is not.

With regard to § 19, I wish only to say that I do not deny that there are classes. I maintain only that no symbol used for a class can be used *significantly and in the same sense* for a member of a class.

(ii) *Propositions and constituents*.—Under this heading I propose to consider the points raised by Mr. Joseph in §§ 17, 20-23. It is true that in my book I did not discuss the nature of propositions, for such a discussion belongs to the philosophy of logic, whereas my book was written for elementary students.¹ The definition I gave of 'a proposition' (S. 32) seems to me correct. It leaves open the further question as to *what* is the *object of believing, etc.* "The object of believing" is an expression having a high degree of logical inappropriateness. But it does

¹ I do not wish to withdraw anything I said about propositions, except that, in two places, I slipped into saying that 'a proposition *expresses*', whereas, in my view, propositions cannot be strictly said to *express*; it is *sentences* which express.

not follow from the fact that an expression is logically inappropriate that it cannot be used in a sentence asserting what is true. If this were so, transformation of sentences would be as useless as Mr. Joseph believes. It was not my intention to analyse the expression '*p* is a proposition'.

I think the best way to answer the criticisms in § 17 is to state, as shortly as I can, what I take to be the nature of a *proposition*. I do hold that believing, etc., are 'alternative "attitudes" ¹ of the mind to the same somewhat' (J. 432), although I do not think Mr. Joseph's expression is fortunate. It is because 'the same somewhat' may be alternatively believed, doubted, or supposed, that it is convenient to have the word '*proposition*'. In my opinion, a proposition is a logical construction out of a set of facts in which some one is judging something. When he judges truly, then it may be said that *the proposition is true*. In this statement "is true" is to be defined by reference to "judging truly". The use of the words "is true" when it is said that 'a propositional function is true', is quite different. *I believe*, etc., propositions, not facts; *I know* facts, not propositions. We can say that we know *the truth* of propositions. This is a logically inappropriate expression; it is not an incorrect expression. 'I know the truth of the proposition *p*' is an awkward way of saying 'I know *that p is true*', and is equivalent to 'I know that in judging *p*, I judge truly'. If this account be correct, then it is clear that *propositions* must be carefully distinguished from *sentences*. We use sentences when we wish to express propositions. I certainly hold that the constituents of a proposition are not *words*.

I admit the difficulty of giving a clear answer to the question what are the constituents of false propositions. I do not pretend to have a clear theory concerning erroneous judgements. But with regard to two points I feel fairly certain. First, I think that the constituents of any given proposition (true, or false) are constituents of facts, or, as it is sometimes put, 'constituents of the world'. If I now judge that this paper is green (whereas it is white), I judge falsely. But the property *being green*, which is a constituent of the false proposition *This paper is green*, is nevertheless a constituent of the world; but there is no fact in the world whose constituents are combined in the way in which my false proposition combines them. If the constituents of false propositions were not constituents of facts, whilst the constituents of true propositions were, then there would be between

¹ Though I see no reason for putting *attitudes* into inverted commas.

true and false propositions such an intrinsic difference that mere inspection of the proposition would suffice to determine its truth or falsity. This is clearly not the case. The second point is that the constituents of a proposition are elements in the world which could be *indicated*. In other words: to say 'A is a constituent of the proposition *p*' is to say that *p* could not be believed, doubted, supposed, or entertained in thought at all, unless there were such an object as A.¹ Hence if *Socrates* were a constituent of the proposition *Socrates is wise*, then "Socrates" would be a logically proper name. But "Socrates" is not a *logically* proper name, but an *ordinary* proper name, and *Socrates* is a logical construction. I certainly 'jib at allowing that we can name the thing that is not' (J. 439). I certainly do not admit that 'we may believe the fact that is not', for I hold that we do not *believe* facts at all.

After what I have already said, I can be brief in my comments on §§ 20-22. *The Church in Hyde Park* is not a constituent of any proposition; nor is *The Cathedral on Ludgate Hill*. On the contrary, "The Cathedral on Ludgate Hill" is an incomplete symbol. The expression which Mr. Joseph regards as a rignarole is not offered as expressing a *completed* analysis of "The Church in Hyde Park is large", but as more logically appropriate to reveal that the proposition expressed is not an elementary proposition. The account which I give is not inconsistent with what I say on page 34. Mr. Joseph has failed to notice that "about" is systematically ambiguous.

(iii) *Functions and variables*.—In §§ 11-16 Mr. Joseph discusses propositional and mathematical functions. He is anxious to contend that 'there is no real analogy between a mathematical and a propositional function' (J. 428), and subsequently (J. 430) admits that I pointed this out. I am afraid, however, that the agreement between us does not go very far. It seems to me that Mr. Joseph's statement that 'a mathematical function is always something quantitative or having degree' betrays a serious misconception of the nature of a function. I should have supposed that it is clear that a function is *not* an area, and that it is nonsense to say that a function is *like* an area. Perhaps Mr. Joseph is misled by the phrase, used by mathematicians, "*y* is a function of *x*", where both *y* and *x* refer to numbers. He must suppose that the "is" in this expression is the *is* of identity. Perhaps the transformation of "*y* is a function of *x*" into the expression "the values of *y* are dependent upon the values of *x*"

¹ I owe this statement to Prof. Moore.

would help him to realise his mistake in supposing that y is *identical with* any function. His misunderstanding of "function" is naturally combined with his misunderstanding of "variable". His statement that 'a mathematical variable, whether argument or function, is the common or determinable nature in various determinate and quantitative or intensive subjects' (J. 428) seems to me just nonsense. A variable is not *a nature*, but *a symbol*; nor does a variable *denote* a common nature. A variable is a symbol standing for any one of a set of elements. These elements need not be restricted to areas, etc., nor to things having a "common determinate nature". Surely Mr. Joseph has overlooked such functions as occur in the theory of groups. Perhaps Mr. Joseph is using the words "variable", "value", "argument" in a peculiar sense of his own. In that case, it is not for me to say that a variable is not a common or determinable nature; I have merely to point out that Mr. Joseph's discussion could then have no relevance to anything I have been concerned to say.

Mr. Joseph's discussion in § 12 is extraordinarily confused. Having asserted that the argument to ' x is a unicorn' must be 'unicorn', he adds, 'which is as if the argument of $\sin \theta$ were sine'. But he had previously said, 'In the mathematical function $\sin \theta$, one value of θ is 90° ; 90° is a determinate form of the determinable common nature "angularity" of all angles; i.e., the symbol θ is a symbol for any determinate form of this determinable nature'. By parity of reasoning Mr. Joseph ought to hold that the argument of the function $\sin \theta$ is 'angularity'. Both these nonsensical statements (*viz.*, the one made by Mr. Joseph about the argument 'unicorn', and the other made by me about the argument 'angularity') arise from Mr. Joseph's failure to realise that a variable is a symbol, and that a function expresses a correlation, according to a rule, of the elements for which the variables stand. Moreover, he fails to notice that x in ' x is a unicorn' is restricted to a set of elements, just as θ in ' $\sin \theta$ ' is restricted to a set of elements. To say 'Redness is a unicorn' would be as nonsensical as to say ' \sin (cosine)'.

(iv) *Implication*.—Under this heading I shall discuss remarks made by Mr. Joseph in §§ 13, 14, 18, 8, 9. It would take too much space to deal with Mr. Joseph's remarks in the order in which they are made. I think that what is important can be dealt with in answering the two following questions: (a) Is there a relation of material implication? (b) what properties must the relation holding between p and q have when it is true

that q is deducible from p ? (In this formulation, and in what follows, p, q are to be taken as standing for any proposition.)

(a) Mr. Joseph questions 'whether there is a relation of implication' such as material implication (J. 430); he questions 'its reality' (J. 435). Surely Mr. Joseph does not deny that '*Either Yesterday is a body is false or Yesterday is divisible is true* is itself true? If, for brevity, we write p instead of *Yesterday is a body*, and q instead of *Yesterday is divisible*, then the above statement can be replaced by ' $\sim p \vee q$ ', and this is replaceable by ' $p \supset q$ ' (using the symbolism of *Principia Mathematica*). So far as I can discover, Mr. Joseph's only argument (to call it such) against the alleged relation of material implication consists in one of his absurd analogies. He seems to argue that since a *disjunction of the colours*, red, blue, yellow is not *itself a colour*, neither can a *disjunction of relations* be a *relation*. But a disjunction of relations is a relation not because *what it disjoins* are relations, but because it is *itself* a relation; a disjunction of colours is not a *colour* because *disjunction* is a relation. It is difficult to take this argument seriously. But it is characteristic of Mr. Joseph's mode of arguing.

I do not understand what exactly Mr. Joseph wishes to have pointed out to him, when he asks whether 'there be any other relation between propositions said one to imply the other, which the word "implication" can denote' (J. 430). I should have supposed it to be obvious that there are many relations which may hold between two propositions, p, q , which could be expressed by saying ' p implies q ', with the proviso that ' p implies q ' must not be assumed to be the converse of ' q is deducible from p '. Some of these relations will involve deducibility, some will not, but all these relations are such that they satisfy the condition that *whatever is implied by a true proposition is true*. When this condition is satisfied, then the relation expressed by "implies" is a *basis* for inference. I shall return to the consideration of this point when I attempt to answer the second question noted above. I must first consider what Mr. Joseph has to say about 'formal implication'. On this point I can be brief.

Formal implication (in Russell's usage of this expression) is simply general material implication. It is true that we cannot 'get out' of $(x). \phi x \supset \psi x$ what has not been 'put into it', except in the sense that we may believe $(x). \phi x \supset \psi x$, and know that ϕa , whereupon we shall believe also ψa . But no general material implication can be *known* to be true unless, in addition to being a material implication, it is also a tautology. Mr.

Joseph's discussion of 'formal implication' in § 13 is mainly based upon his mistaken notion of a variable as a common determinable nature. On that point I have nothing more to add.

(b) The second question raises the problem concerning the nature of *deducibility*. It is certainly false to say that ' $p \supset q$ ' means ' q is deducible from p '. It is obviously false to say that every true proposition is deducible from every other proposition. Russell has allowed himself to commit this absurdity, but it has been sufficiently dealt with by Prof. Moore.¹ There is, however, no ground for assuming that, because Russell has committed an 'enormous howler', $p \supset q$ cannot be a basis for inference. $p \supset q$ may be true, although q is not deducible from p . In that case, q cannot be validly inferred from p , *merely* on the basis that $p \supset q$ is true. But in the system of material implication this inference is never made. The only *assertions* in the system are tautologies. When ' p implies q ' can, in this system, be equivalently replaced by ' p entails q ', then ' p implies q ' is a tautology. Now ' $p \cdot p \supset q \cdot \supset \cdot q$ ' is a tautology. This may be shown as follows: (1) ' $p \supset q$ ' means "It is not the case that p is true and q false" is true'; (2) ' p is true' and (1) yield 'It is false that: p is true, and it is not the case that p is true and q false, but q is not true'. This latter statement is clearly a tautology. Hence, from ' $p \cdot p \supset q$ ' we can validly deduce q . Certainly we cannot *know* that $p \supset q$ unless we know that p is false, or know that q is true. But this fact has no bearing upon the question whether q is *deducible* from the premisses. It is important not to confuse *inference* and *deducibility*. Inferring is an operation, or a mental process; deducibility is a formal relation.

There remains the question whether deducibility always involves tautology. I am not at all clear on this point, but it seems to me that *entails* covers two relations, one of which involves tautology, but the other not. Mr. Joseph quotes Prof. Moore's three examples of entailing. These are: (1) 'This is red' entails 'This is coloured'; (2) 'This is a right angle' entails 'This is an angle'; (3) 'The premiss of a *Barbara* syllogism (taken as one conjunctive proposition) entails the conclusion.' It seems to me that (2) and (3) are clearly tautologous. Thus, in these cases 'entails' could be replaced by 'analytically contains'. But this does not seem to me to be the case with (1), for 'is coloured' is not, I think, analytically contained in

¹ *Philosophical Studies*, pp. 303-304; cf. *S.* pp. 224-225.

'is red'. There may be still other forms of entailing.¹ I think, however, that it is clear that the formal properties of *analytical containing* are the properties of *formal deducibility*. If this be so, it is certainly correct to say 'that syllogism begs the question' (J. 427), unless 'begging the question' is to be stigmatised as a fallacy. To beg the question when one is claiming to be *inferring* is to fall into fallacy. When, however, we are concerned only to ask what *follows from* a given proposition, then no *fallacy* of begging the question can occur. I think a great deal of confusion has arisen on this point owing to a failure to distinguish between two quite different questions. These are: (1) How can I establish that *p* is true? (2) What follows from *p*?

In view of what I have already said, I need only add, with reference to § 9, that in my opinion, 'the validity of the inference "*aRb, bRc ∴ aRc*"' does depend upon the fact that '*aRb . bRc* implies *aRc*' states a tautology.

I accept the consequence of this view of deducibility, namely, that there is no synthetic *a priori* knowledge (see J. 435). Evidently Mr. Joseph does not. I can only ask him *how* he *knows* that 'Being an organism' necessitates 'being mortal' (J. 427). Perhaps, however, he does not think that this is an example of synthetic *a priori* knowledge. If not, what examples could he give, and what does "necessitates" mean?

(v) *What is really 'analysed'?*—Mr. Joseph's last paragraph raises the question of *what* the 'rigmarole' is an analysis. The answer is that what is analysed is the sentence. The purpose of the analysis is to transform the sentence so as to reveal more clearly the form of what is expressed by both sentences—the original and the transformation. The point of transforming is to enable us to see more clearly what before we did not see. I do not suggest that this business of transformation constitutes the whole of logic. It is, however, that part of the work of those logicians whom Mr. Joseph calls 'logisticians' that has especially excited Mr. Joseph; hence, it is with the nature of analysis that Mr. Joseph's article is mainly concerned.

¹ See Moore: *Philosophical Studies*, p. 275.

V.—CRITICAL NOTICES.

Remembering: A Study in Experimental and Social Psychology.
By F. C. BARTLETT. Cambridge University Press, 1932.
Pp. x + 317. 16s.

It is a pleasure to welcome an authoritative book on memory, which puts physiology and nonsense-syllables in their place. Prof. Bartlett has developed a psychological theory of memory, in which he attempts to do away with 'traces' of past experience, whether conceived of as neural modifications, or as some other non-physical persistent something which represents the residue of the 'remembered' experience. He points out that remembering is something which we do, and which we do every day of our lives, and, in a wide sense of memory, every second of our lives; it is not to be dealt with as an isolated set of 'familiarly-toned' experiences which happen inside our minds, and it is not a phenomenon which can be adequately studied by means of material quite foreign to the interests and occupations of every-day life.

The material for his experiments, therefore, consists of pictures and stories which allow the play of interest, surprise and amusement, rather than nonsense-syllables which are specifically chosen in order to rule out interest and familiarity, and which only involve the single emotion of boredom.

In the first part of his book, Mr. Bartlett presents the gist of his experiments and his comments on them. He starts with experiments on perceiving, because he realises that what we recall depends on what we observe, and what we observe is not merely a function of the stimuli, but also of our own interests and tendencies. Pictures were presented which then had to be reproduced by drawing or, in the case of complicated ones, by description. Two important points emerge: firstly, in any complicated picture some detail is liable to stand out. "With structurally complex material it may be plan of construction; disposition of figures which are themselves given scant notice; general topic and representational significance." This involves (a) a general grasp, and (b) the accentuation of certain features. Secondly, there is a tendency to assimilate all presented material by 'matching' it, with or without a name, with something already familiar. The sense-data will be 'seen as' something, and the 'seen-as' part involves fitting the unfamiliar to the familiar in some way—an instance of the effort after meaning. This process

is further explored in the next set of experiments, in which subjects were asked to 'see' ink-blots 'as' pictures or representations. This set of experiments is called 'Experiments on Imagery', though they would appear to be more in the nature of 'Experiments on Interpretation in Perception'. In fact, in these earlier chapters, Mr. Bartlett's remarks on imagery are not always easy to understand. It is not always clear whether the image which is being referred to comes in to aid perception or to help recall. Subjects, for example, were shown a picture of Hubert and Arthur for a very short time, and images were apparently present when they attempted to describe what they had seen. "Here", says Mr. Bartlett, "more than in any of the earlier stages, imaging was coming to the aid of perceiving." But surely they were aiding recall rather than perception; in fact it is hard to see how images can help one to perceive. All saw, or, rather, remembered seeing, something wildly different from what they would have seen if they had had a longer look, but that does not seem to indicate that imagery was operative at all in the actual perception, however fleeting, save that he remarks: "Very rarely indeed did a subject . . . differentiate clearly between a sensory image set up by the stimulating object and his interpretation of it". If 'imagery' means 'consciously having an image' then they must have known when they had them; if 'imagery' is a name given to the interpretative aspect of a perception, when, under artificial conditions like these, something is seen otherwise than the way in which it would be seen if the person had had more time to look, then the word is being used here in a different sense from that prevailing throughout the rest of the book. Of course they interpreted what they saw in terms of something which we shall learn to call a 'schema', but that does not involve having an image, in the ordinary sense, at all; in fact the main point of the book seems to be that imagery is something over and above the mere use of a schema for recognition, it is a "device for picking bits out of schemas".

There follow experiments in remembering, though the ones on perception have a memory-aspect. In one set the subject had to describe what he had seen, in another he had to reproduce stories at intervals (Method of Repeated Reproduction), in a third he had to learn a code of picture-signs, while in the last set the 'Method of Serial Reproduction' was used, in which the reproduction of one subject is passed on to the next, and his reproduction of the first reproduction is passed on and so forth throughout a whole series.

Stress is again laid on the importance of the grasp of the whole, while discriminating interesting or even irrelevant detail, if it is sufficiently outstanding or odd. "Every piece of continuous verbal material tends to be so treated that all the details can be grouped about some central incident or incidents. The incidents selected vary from group to group in accordance with varying group interests or conventions."

Once more we meet with the rationalising tendency, seeking to reduce the material presented to acceptable form. In one story, for instance, in which there was obscure supernatural material, it underwent considerable change with successive reproduction, and what could not be 'rationalised' tended to be omitted.

This progressive alteration of the whole, combined with the preservation of odd details, comes out particularly clearly in the serial reproduction of pictures, when, for example, a rough drawing of an African mask ends up as a passable representation of a human face.

From this will be seen the most disturbing result of the experiments on memory, namely its unreliability. As one reads the series of reproductions of stories, in which the whole point of the original is lost when the end is reached, one is appalled at the failure of human memory to cope with the simplest material. The subjects did not, it is true, have very long in which to study what they were to recall, but the material was not very complicated and one would have thought that they could have 'carried it in their heads' longer than they did.

But that is just Mr. Bartlett's point. The detailed past is not carried in the head at all, or anywhere else.

He makes the distinction between what we may call 'habit memory' and memory of details or events. This is, of course, of the utmost importance, because every physiological theory of memory has broken down over one or other of these two functions. If you stress the accumulative effect of the past, then you tend to neglect memory of bits of the past, while if you stress memory of the events in the past as isolated traces, then you are likely to find yourself landed with a theory of memory which cannot be applied to account for its accumulative powers.

Prof. Bartlett takes 'habit', or accumulative, implicit memory as being the primary factor. He has recourse to Head's formulation in terms of 'Schemata' in order to cope with it. The notion of a 'schema' is useful because it preserves general shape or drift, while allowing for incidental modification. In performing a habit, however mechanical, the similarity between one performance and the next is in terms of general pattern, not of individual actions which make it up.

Bartlett defines 'schema' as follows: "Schema refers to an active organisation of past reactions, or of past experiences, which must always be supposed to be operating in any well-adapted organic response. That is, whenever there is any order or regularity of behaviour, a particular response is possible only because it is related to other similar responses which have been serially organised, yet which operate, not simply as individual members coming after one another, but as a unitary mass. Determination by schemata is one of the most fundamental of all the ways in which we can be influenced by reactions and experiences which occurred some time in the past."

There is, therefore, operative in the organism a 'living schema' which controls its actions. At any given time the schema which is called into action depends, presumably, on the tendency which is aroused at that time.

In the case of a simple organism, "since its sensory equipment and the correlated movements are very limited in range, and since the mode of organisation of the 'schema' follows a direct chronological sequence, circulatory, of reaction, the repetition over and over again of a series of reactions is very prominent".

As development takes place in the direction of complexity, "there is an increase in number and variety of reactions", and "all this growth of complexity makes circularity of reaction, mere rote recapitulation and habit behaviour often both wasteful and inefficient". We have a larger field of operation, or have more complicated needs, and if we simply did the same thing over again, however much we might modify the details to fit the environment, we should constantly be coming to grief. We want some way of referring back to the past, we want, as Mr. Bartlett puts it, to "acquire the capacity to turn round on our own schemata". Here is the difficulty. If the 'living schemata' are accumulative, how is the breaking-up of the schema possible? Supposing I learn to knit. Presumably when I take up my knitting the whole of my past knitting experiences are implicitly operative in the unitary schema that guides my fingers. I come, say, to 'turn the heel' of a sock. If I have only done this once before, I shall certainly want to refer to that instance, and I shall ruin my work if I go blindly on. Prof. Bartlett says that I had a general impression of the whole business when I did it on the first occasion to which I may have had an 'attitude'. "The recall", he suggests, "is a construction, made largely on the basis of this attitude, and its general effect is that of a justification of the attitude". The difficulty is that he does not give a clear account of how the attitude that I had on the first occasion is 'revived'. It seems to be suggested that the attitude which I have on the second occasion, when I come to 'turn my heel' acts causatively in making me recall what happened on the first occasion, when I learnt how to do it. But, surely, the attitude I have when a memory is aroused for my use may be quite different from the attitude, or general impression, I had of the scheme of experiences when I experienced them.

In any case, how does the first experience, to which I am going to make reference, get 'individualised'? In order to explain this, Prof. Bartlett refers to a circumstance connected with one of his experiments. A subject had read a story and repeated it half an hour afterwards. "She left Cambridge shortly after this, but returned in two years. In the summer of 1919 she saw me cycling . . . in the town of Cambridge. She at once became aware of that puzzled, searching sort of attitude we experience when we see somebody we think we ought to know, but are not able to identify him.

A moment later she found herself muttering 'Egulac', 'Kalama', the two proper names belonging to the story." What is not clear is whether the attitude of puzzlement was similar to the attitude she had had when she read the story, and if not, in virtue of what schema did she think of these two names? She did not meet with them in connection with the tendency to identify an unknown person, but apparently they were used for that purpose. The point, however, of the incident is that these two names were remembered, and subsequently an account of the story was built up round them. "The need to remember becomes active," says Prof. Bartlett, "an attitude is set up; in the form of sensory images, or, just as often, of isolated words, some part of the event which has to be remembered recurs, and the event is then reconstructed on the basis of the relation of this specific bit of material to the general mass of relevant past experience of reactions, the latter functioning, after the manner of 'schemata', as an active organised setting". And this individualisation of an element in an organised mass of experience is based on interest, tendency, appetite and the like. Here we see the point of that emphasis that was laid on the 'general impression', on the one hand, and the detail that accentuates it, on the other. The traces which these experiences leave behind them are "interest-determined, interest-carried traces". So that, after all there are too sides to schemata, there is their accumulative aspect, and their 'trace' aspect. When, therefore, I come to 'turn my heel', I shall probably have an image of a detail which occurred and struck me as important when I first tried to do it, and I shall also have my general attitude towards that particular group of organised experience, both of these being traces, individualised in the knitting-schema, and when I 'remember' the total event, it will be a matter of construction, and that is why it will be so inaccurate.

Prof. Bartlett's evidence is all in favour of inexactitude, as we have seen, but is memory, after all, as inexact as all that? Certainly it seems as though some general impressions, when they are aroused, are extraordinarily compelling when one comes to construct a memory to fit in with them. As I wrote these lines I had a clear memory image of taking my mother's photograph in a garden in April. Immediately preceding the image, was the conscious thought: 'Can I remember a past event with any accuracy?' Now it is impossible to test the accuracy of my memory. Presumably the image came up to help me to answer my question, but I am not prepared to rate it as low as I feel Prof. Bartlett would wish. I feel, in fact, the confidence which he has shown experimentally to be so fatal. I then toyed with the image, and 'filled out' the situation. Here, according to Bartlett's theory, I suppose I am following the attitude-trace, or general-impression-trace. This association of ideas seemed strictly controlled by 'what happened', and a great deal of material, some in image-form and some clothed in words, came into my mind. Now the point is this, my con-

structive effort might be creative, and the details might fit my general impression-trace, but not be accurate, or they might be constrained by 'what happened', and my further filling-in of detail might be accurate. In Prof. Bartlett's experiments we have to admit that the constructions are inaccurate, *save for the first two or three*, but in memory of personal events it does seem that the constructions are very often accurate, though I admit that it is not possible to prove it. If, as I think plausible, the filling-in is very often accurate, then far more detail is preserved, for the images to 'pick out', than he seems to grant. On page 264 Prof. Bartlett speaks of a "constructive type of remembering", as though there were a less constructive, or even a non-constructive type, and in any case, what we want to know is how we are to conceive, not so much the *elimination* of details after a long time, as the *preservation* of details for a short time.

Of course Prof. Bartlett does not pretend that his account of the matter is a complete one, and there are two more points on which one would like to be enlightened. While it must be admitted that much remembering is useful, as Prof. Bartlett contends, surely a great deal is irrelevant. If the details are embedded in the 'schemata', if behind the schemata lie the systems of tendencies, can we really account for all our 'chance' memories by reference to membership of more than one schema? When we come to deal with human psychology, on biological lines, which is, indeed, one of the most fertile avenues of approach, we often get the impression that much that goes on in the human mind is of the nature of a luxury. The *kind* of thing in question may be shown to be of biological utility, but specific instances often seem rather to be due to the casual working of processes which have a biological foundation. The other point is that schemata must be regarded as forming hierarchies. If one learns to drive a car, one assimilates a certain schema with regard to the particular gear-changes involved in that kind of car; when one then drives another car, with a different gear-change, the general schema of gear-changing is left, but a new particular schema of gear-changing, appropriate to the new car, gets formed, and if one is absent-minded the old particular schema may come into force. On a background of general schemata, particular ones are set up. This happens also in the case of the written word. The word 'inflation' is recognised as a meaningful word by the operation of the general word-reading schema, but it has a special significance for the, say, economic word-reading sub-schema, and a different one with regard to the word-reading sub-schema of the tyre-expert.

In the last part of his book, Mr. Bartlett makes some interesting remarks about social memory. I have mentioned that one of his experiments was concerned with the use of picture writing, and another with serial reproduction of stories and pictures from individual to individual. He finds in his results that the same factors are at work in altering the 'remembered' material as can be distinguished in the study of folk-lore or the changes which pictorial

representation may undergo when culture passes from one people to another. The same reduplications, the same kind of omissions and conventionalisations are demonstrated. There is, further, interesting material in support of the contention that interests determine memory to a great extent. The Swazi, whose culture centres largely round the keeping of cattle, display astonishing memory for cattle-material, while their memory in other directions is as bad as our own. How this social determinant of memory has its effect, what form, in fact, the controlling forces of society take in the individual, is a difficult matter to determine, but Bartlett, I think rightly, rejects the concept of the 'collective unconscious', while at the same time showing that social forces are certainly at work in controlling the matter which we recall.

Finally Prof. Bartlett has a great deal to say in the course of the book about the relative utility of remembering by means of imagery and remembering by means of words. Imagery tends to be taken too seriously and too confidently, while verbalisation has the advantage of greater abstraction.

The great value of Prof. Bartlett's book is that it relates remembering as a mode of activity, with its methods of imagery and verbalisation, to the general psychology of human tendencies. What we remember, how we remember, and the fact that we do remember are only to be understood if we realise that we remember what we are interested in, that we remember in terms of our interests, and that we remember for the furtherance of our interests. Memory for him has ceased to be a circumscribed problem, and is fitted in with the theory of the factors which determine human behaviour in general, not excluding the social influences of which we hear so much, and know so little.

In conclusion, quite apart from the high degree of merit which accrues to the material, a word should be added in praise of the form. Readers of Prof. Bartlett's previous works will remember how careful he is that the main points of his thesis should be easily and quickly accessible. After reading what, from a 'human' point of view, is a distressing criticism of our ability to remember, we remark with renewed gratitude that again he has supplied us with convenient summaries at the end of almost every chapter, and a grand summary as the last chapter of the book.

W. J. H. SPROTT.

Berkeley. By G. DAWES HICKS, M.A., Ph.D., Litt.D., Fellow of the British Academy, Emeritus-Professor of Philosophy in University College, London. London: Ernest Benn (*Leaders of Philosophy Series*), 1932. Pp. 336. 12s. 6d.

SINCE Campbell Fraser's time there has, until recently, been a strange dearth of works upon Berkeley. Writers dealing with

other thinkers or with special topics have, indeed, emphasised Berkeley's importance, and have kept him prominently before the philosophical public. Within the past ten years, however, there have appeared two very helpful books, G. A. Johnston's *Development of Berkeley's Philosophy* and Rudolf Metz's *Berkeley*; and now we have this excellent work, which admirably supplements them. Johnston and Metz have chiefly had in mind the exposition and historical development of Berkeley's doctrines. Dr. Dawes Hicks' book is, from start to finish, critical in character. And, in this regard it amply justifies the hope, very modestly expressed by the author, that it "may prove both helpful to those who are reading the texts for the first time, and not altogether without suggestiveness for those who know them well."

The series in which this volume appears is designed on the principle that the life, the teaching and the after-influence of each philosopher should be dealt with. This is a very large order for volumes of this small compass; and is likely to leave much too little space for adequate treatment, even if it be mainly expository, of the philosophy proper; too many things have to be said too quickly. Dr. Dawes Hicks has, however, successfully circumvented this difficulty. He has made his account of the life quite brief (pp. 1-24); and the lengthy sections on Berkeley as a precursor of Hume and Kant and on Berkeley's post-Kantian influence are very skilfully used for the more detailed development of the points raised in his critical account of Berkeley's own teaching.

I shall select for notice some of the main points in the volume; and first, those which concern the origins of Berkeley's new way of thinking. Dr. Dawes Hicks accepts Lorenz's rearrangement of Berkeley's *Commonplace Book*; but himself makes the further suggestion (p. 27) that it ought to open with entry No. 70 (in Johnston's edition), and that jottings 1-69, which fill up the blank pages of the first sheet, must have been made later. If this can be agreed to, we shall then be in position to understand why in jottings subsequent to No. 70, in contrast to those numbered 1-69, Berkeley should still be wavering between Locke's theory of matter and his own doctrine of immaterialism. I find it difficult, as I have not myself seen the original MSS., to judge of the justice of this suggestion. Apparently, however, almost any irregularity in the use of the pages can be granted. As Dr. Luce has pointed out (*Hermathena*, No. XLVI., p. 158), the last eight lines of the Dunmore Cave Essay in the *Commonplace Book* "have a page to themselves, beginning with *-gelation*, which links correctly to the *con-* at the foot of page 170. But the eight lines are written upside down, and are separated from the main essay by eight pages, five of which are blank. Nothing could be more delightfully unaccountable."

Dr. Dawes Hicks has a no less novel suggestion to make in regard to the *Essay towards a New Theory of Vision*. The usual view has been that in the *Essay* Berkeley, in order to 'insinuate' his system by

degrees, deals only with visible objects, and quite deliberately leaves unquestioned the popular assumption that "tangible objects exist without the mind." On Dr. Dawes Hicks' view it is "by no means unlikely" that the position taken up in the *Essay* represents a stage in the development of Berkeley's philosophy. From the style and structure of the work he argues that it is practically certain that the *Essay* is a composite product. "I regard it, therefore, as far from improbable that Berkeley might have begun the *Essay* before 1707, and have written a goodly portion of it whilst he was still entertaining the belief that the objects of touch exist independently of being perceived; and that he considered it beside his purpose in finishing the volume to disturb that view, seeing that he was about to do so in another treatise which was then on the eve of publication" (pp. 39-40). Apropos of Dr. Dawes Hicks' "before 1707", it is worth noting that Dr. Luce, in the article (p. 157) above cited, has given very convincing evidence that the first of the two books which compose the *Commonplace Book* cannot have been available for Berkeley's private use (as distinguished from its use as a rule-book of the new Society) until after 7th December, 1706. This leaves an interval of only two years between the beginning of the *Commonplace Book* and the publication of the *Essay*, early in 1709.

As regards the actual teaching of the *Essay*, Dr. Dawes Hicks reminds his readers—what is so often forgotten—that Berkeley found it to be "agreed by all" that distance cannot be immediately seen, and that the estimate of distance and magnitude is rather of the nature of a judgment than of an immediately apprehended datum. Berkeley was acquainted with Malebranche's mode of enforcing these theses; and was also acquainted with the work, published by Molyneux in 1690, in which it is argued that distance is chiefly perceived by means of intervening bodies, and by such signs as the comparative magnitude of bodies and the faintness of their colouring. Berkeley's contribution consisted in a closer examination of the alleged signs, rejecting certain of them, and especially the supposed apprehension of the angle of the optic axes, with the result that in his hands the theory is stated for the first time in a genuinely self-consistent manner, and with all its important consequences definitely drawn and duly emphasised. Further, as Dr. Dawes Hicks points out, the *Essay* has a second main purpose, namely (in the concluding forty sections) to draw attention to those considerations, epistemological not psychological, which are of prime importance for the formulation of Berkeley's theory of a divine visual language. Berkeley proceeds to enquire concerning the diversity of the visual and the tactual, and "whether there be any idea common to both senses." Berkeley's argument, Dr. Dawes Hicks maintains, is here much less satisfactory. It rests on a number of unsupported assumptions, and also involves all that is most questionable in his denial of abstract ideas. Berkeley's willingness to overlook quite obvious features of experience, which

happen not to be connected with his own main theories, is nowhere, perhaps, more evident than in his assertion that visual extension, figure and motion are quite other than tangible extension, figure and motion, or in the still more extreme alternative view, to which he sometimes gives expression, that what we see is not something that is both coloured and extended, but colour only and not extension. This latter view is very faithfully dealt with by Dr. Dawes Hicks (pp. 63-66). From it he draws the conclusion that though Berkeley does indeed dwell upon the closeness of the connection between the 'given' and the 'suggested' or 'signified', he ought to have gone further, and to have recognised that the attempt to single out the immediate factors, through introspection, is, under the prescribed circumstances, a quite hopeless task. This, however, it may be objected, is to require Berkeley to be quite other than himself, since it would have rendered wholly untenable his cherished comparison of visual data with the words of a language.

Berkeley's treatment of the process of generalisation, and of the problem of universals, largely consists in a polemic against the teaching of Locke. According to Locke universals are formed by a process of abstraction, whereby the attention is fixed upon certain attributes in particulars, to the ignoring of those which characterise only some or one of them. Berkeley's teaching in the *Principles* (as distinct from the extreme nominalistic teaching of the *Commonplace Book*) is that ideas do not lose their particularity by becoming general. They retain their concrete individual character, but are employed as 'symbols' or 'signs' of a number of other concrete particulars. It is the use or employment of a sign that is general, never the sign itself—this holding when the sign is a sensible thing, no less than when it is a name spoken or written. In criticism, Dr. Dawes Hicks points out that the mental operation required to confer upon a particular idea its symbolic character is "wholly irreconcilable with the view of experience which had lain at the root of the criticism brought to bear upon Locke's theory of generalisation" (p. 95). Berkeley's assertion is that "a particular idea becomes general by being made to represent or stand for all other particular ideas of the same sort." Upon this Dawes Hicks passes the sufficient comment: "A mind capable of recognising that certain of its ideas are 'of the same sort' would be a mind possessing functions altogether other than what Berkeley had taken the function of apprehending an idea to be. In other words, the attributing to a particular idea a symbolic character of the kind indicated presupposes the act of generalising and does not account for it" (p. 96). "If the apprehension of an idea and the apprehension of its signification are but two sides, so to speak, of one and the same mental act, it is obvious that perception already involves the faculty of discriminating and relating which he was taking to be specifically the essence of thinking or judging. . . . To suppose that so-called 'notions' of relation spring up in the mind *de novo* when presentations or ideas, possessing

already definiteness and precision of outline, are put in relation to one another in the field of contemplation is, psychologically regarded, an unintelligible theory" (p. 99).

In one or another form, this is Dr. Dawes Hicks' main criticism of Berkeley's doctrine of ideas. It emerges again in his comment on Berkeley's assertion that he is not denying the *sameness*, i.e., the *unity* and *identity*, ordinarily ascribed to objects of perception. Berkeley, as he points out (p. 138), is sliding over two radically different senses of the word 'same'. "The word 'same' may mean either numerical identity or qualitative similarity between things numerically different. It is only the latter that he is recognising so far as the sense-ideas of finite minds are concerned." "There would appear to be no possible interpretation of the word 'same' that will justify us in describing the object perceived by the finite mind, dependent for its existence on the finite mind, and in its own nature inseparable from the finite mind, as the 'same' as an object of the infinite Mind, howsoever that object be represented by us" (p. 140). It is also from this standpoint that comment (p. 125) is passed upon Berkeley's failure to demonstrate the mind-dependent character of the secondary qualities. Berkeley invariably assumes this as having been acknowledged by the Cartesians and by Locke. He is concerned only to show that in consistency the same view should be extended to the primary qualities. Unfortunately, Berkeley never attempted to define in what precisely the act of perceiving consists. If it be an act which, when occasioned, is directed upon sensible things; and if, further, it be an act of discriminating and distinguishing the features of an object, it is only what is to be expected that the features of the object should appear differently according as they are less or more accurately discerned. The mind-dependent character of the perceived is not thereby proved. As Dr. Dawes Hicks also points out, while Berkeley is quite explicit that ideas exist in the mind "not by way of *mode* or attribute, but only by way of *idea*," he so emphasises the 'altogether passive', inactive nature of the ideas, that it is difficult to understand in what way they can be thus dependent on mind or 'in the mind' without being its 'states' or 'modifications'.

In the chapter devoted to Berkeley's treatment of 'Nature and Mind', there is a curious omission of all reference to his views regarding the function and aims of the physical sciences. This is doubtless due to the fact that Dr. Dawes Hicks discusses Berkeley's attitude to the mathematical and dynamical theories of his time in quite another connection, namely in the later chapter entitled 'Theory of Knowledge'. To judge, however, by the very carefully worked out criticisms of Berkeley's manner of regarding Nature, Dr. Dawes Hicks would seem to agree that the view suggested by Berkeley in the *Principles*, that the laws established by the physical sciences are laws of the coexistence and sequence of sensations, is out of harmony both with the actual procedure of the sciences and with

Berkeley's own later views. As Berkeley declares in *Hylas*: "God knows or hath ideas, but His ideas are not conveyed to Him by sense, as ours are"; and, more definitely in *Siris* (§ 289): "God knoweth all things by pure mind or intellect; but nothing by sense, nor in nor through a sensory". In other words, Nature exists for God as a conceptual scheme. The laws of Nature are not, as Berkeley had suggested in the *Principles*, between sensations but between the factors (quite other than any sensations, actual or possible) which are to be found only in the elaborate conceptual scheme by which God is determined in the arousing of sensations in finite minds.

We speak of an old man in a hurry. But is an old man's haste at all likely to rival the impatient ardour of a youth of genius, swept off his feet by the outlook disclosed in a new and promising hypothesis? Do not nearly all Berkeley's second thoughts run counter to his first thoughts? This, of course, is by no means to be taken as implying that Berkeley's first teaching—the teaching which is usually in our minds when we think of Berkeley, and which has given him his place in the history of philosophy—is therefore valueless; but it does show that, on maturer reflection, he himself ceased to be a 'Berkeleyian'. While he still continued to hold to a spiritual view of reality, he had come to recognise that such a view is more endangered, than supported, by the methods of his early teaching. Re-reading the first edition of his *Principles*, after the publication of his *Siris*, must he not have exclaimed to himself: "These, indeed, were my great days! But how could I have been so blind as to uphold sound doctrine by such mistaken methods!" Berkeley, like Hume, did his best work in his twenties; and like Hume, he had not the genius for a second, yet greater, period of creative thinking. Throughout his other philosophical writings he was content merely to curtail and to modify, hampered by his own great past in any attempt to advance upon it. In the main, this would seem to be Dr. Dawes Hicks' own verdict, though he expresses it, perhaps justly, in more qualified terms. It is, he points out, misleading to assert, as has been done by Johnston and Metz, that in *Siris*, in place of the earlier doctrine 'the *esse* of things is *percipi*', Berkeley is now contending that 'the *esse* of things is *concipi*'. Berkeley "nowhere contends that the *existence* of real things is constituted by their being thus conceived, after the manner in which he had previously contended that the existence of sensible objects is constituted by their being perceived. The dictum that 'thought and existence are one' needs, indeed, careful interpretation before it can even be taken to be fairly expressive of the fundamental tenet of the later Hegelian philosophy; but no interpretation can render it a correct expression of Berkeleyian doctrine" (p. 214). As Dr. Dawes Hicks further argues, in no respect is Berkeley's failure to develop a thought-out substitute for his earlier views more evident than in his continuing assumption that the interrelations of Infinite Mind, of material existence, and of finite spirit, can be suitably accounted

for by means of the principle of causality. Beyond a bare repetition of the older assertion that "we have no proof, either from experience or reasoning, of any other agent or efficient cause than Mind or Spirit" (*Siris*, § 154), no foundation is laid for any genuinely new way of thinking. In all the doctrines in which he departs from his early teaching, he is unoriginal. His later views may or may not be less open to criticism; but this is only because he has fallen back upon teaching which had already been more adequately formulated by other thinkers. The defect in substance also shows itself in defects of form. *Siris* is well-nigh devoid of the lucidity, ease and simplicity which characterise the earlier writings. "Berkeley appears now to be almost afraid of trusting to an argument of his own, and his continual appeal to authority tends not seldom to become tedious" (pp. 220-221).

After a very useful summary account (pp. 229-251) of Berkeley's relations to contemporary thinkers—Malebranche, Norris, Collier, and Sergeant—Dr. Dawes Hicks concludes (pp. 252-319) with a discussion of his after-influence. Berkeley's speculations, he shows, may be contemplated from two points of view—and both, he insists, are required for a balanced view—on the one hand, as affording a mode of transition for the somewhat halting empiricism of Locke to the more developed and consistent empiricism of Hume; and, on the other hand, as occupying a position intermediate between the commonsense philosophy of Locke and the type of philosophy represented by Kantian and neo-Kantian teaching. Berkeley's influence, in particular, upon the English idealists—J. F. Ferrier, Green, Caird, Bradley and Ward—is suitably treated at considerable length, and in a very interesting manner. Berkeley, Ferrier declared, was unreservedly right in rejecting representationism, and in refusing to recognise a distinction between things and their appearances (*cf.* pp. 289, 291). "It was after Ferrier's death in 1864 that English philosophy came under [Hegelian] influence. A cursory inspection is, however, sufficient to reveal the fact that this did not mean a merely literal importation of German speculation into another land or age; and it may, I think, be readily seen that the change of form, if not, indeed, of content, which the philosophy of Hegel underwent in the hands of such writers as T. H. Green and Edward Caird was owing, in no small measure, to the circumstance that these thinkers were intimately familiar with the works of Berkeley, and no less with those of Ferrier." As Dr. Dawes Hicks also shows, the influence of Berkeley is even more evident in the teaching of Bradley and of Ward.

N. KEMP SMITH.

The Philosophy of Descartes. By A. BOYCE GIBSON. London : Methuen & Co., Ltd., 1932. Pp. xii + 382. 12s. 6d.

MR. BOYCE GIBSON'S book has long been needed. We have had no adequate full-length critical study in English of the Cartesian philosophy. The present work combines a strenuous attempt to show Descartes' thought as a systematic whole, with an elaborate attention to detail; it starts from his roots in Scholasticism, brings out the consequent importance for his philosophy of his religious presuppositions, gives due weight to his profound interest in Physics and its bearing on his Metaphysics, and in particular takes adequate account, as no other treatise in English has yet done, of the very important researches of French writers during the last half-century. His treatment is throughout genuinely philosophical. Even the historical questions of the first two chapters (on the 'Heritage' and the 'Mission' of Descartes) are raised and answered always with an eye to tracing the influence of Descartes' predecessors, contemporaries and general environment on the formation of his ideas. Further, Mr. Gibson shows the erudition and painstaking thoroughness necessary to a serious student of Descartes, who perhaps raises more questions of interpretation—at any rate in detail—than any of the other great philosophers, with the possible exception of Kant, and whose writings are so voluminous and discrete that a balanced verdict on such a question can sometimes be reached only after a hunt through volumes of letters, objections and replies to objections. (The four hundred large and closely printed pages of M. Gilson's commentary on the text of the comparatively brief *Discourse* are an eye-opener to what can profitably be done in this way.) Not only has Mr. Gibson something of interest to say on almost every problem of any importance raised by Descartes, but in almost every case he has consulted, and refers his reader to, all the passages that bear seriously on the question at issue, so that whether or not you agree with his conclusion he provides you not only with the evidence that led him to it but with a key to the requisite material for forming one of your own. Further, Mr. Gibson's treatment is as systematic as his author's philosophy. I have spoken of his handling of special problems, but the reader who refers to this book for a solution of one of these will almost certainly find that his question is raised only as one aspect of a wider thesis which Mr. Gibson is defending, and that he has to read a long way both backwards and forwards to get the question and its answer in their proper perspective. I am anxious to stress at the outset these important claims of Mr. Gibson's book to serious consideration, since it happens that both in his broad treatment of his subject and in his handling of many details I find myself often out of sympathy with his point of view; and I propose to spend the remainder of this review in indicating some of these lines of divergence and the reasons for them.

(1) The most distinctive and important feature of the book is its

attempt to disentangle the real drift of the Cartesian philosophy from certain relatively superficial views by which, according to Mr. Gibson, it is masked and falsified in Descartes' own exposition.

(2) The central question concerns the relation of Science and Scientific Method to Metaphysics and Metaphysical Method. According to Mr. Gibson, the appeal to clear and distinct perception based on clear and distinct ideas held good for Descartes in Science, but only in Science. Though he supposed that he was using the same method in Metaphysics he was really proceeding in a radically different way. If Mr. Gibson is right, the Rules of Method are rules for Science and not for Metaphysics.

(3) The reason for this difference, according to Mr. Gibson, is that in Science we are moving in the region of abstractions, and clear and distinct ideas are abstract concepts. In Metaphysics, on the other hand, we start from the concrete experience of the self—we start with the actual self, not with an abstract concept of the self. But in thus being certain of the reality of the self we are also likewise certain of its limitation and deficiency, in such a way that the same certainty extends to the real existence of a Being who is perfect in all the respects in which we are imperfect. This, on Mr. Gibson's view, is what Descartes ought to have said, and would have said if he had not clung to the method of clear and distinct ideas as a universal method both in Science and in Metaphysics.

(4) From this point of view Mr. Gibson deals with the alleged circle in Descartes' proofs of the existence of God. So far as the appeal is to clearness and distinctness the procedure is really circular. But even for Descartes himself the cogency of his arguments did not rest on this basis. What he is really relying on in the background of his mind is the inseparable connexion or unity not of the abstract concept of self with the abstract concept of God but of the real self of concrete experience with a real God.

(5) We have to examine the position which I have just stated in outline. But before doing so it is necessary to consider two cardinal features of the Cartesian philosophy which seem to me to be treated by Mr. Gibson in a perfunctory and misleading way. The first is the Representationism of Descartes. If I am right, Mr. Gibson misses altogether what Descartes means in treating ideas as mental representations. He assumes throughout that there is no representation unless there is some relevant reality which is represented or misrepresented. For instance, he says (p. 113) that "the idea of God, like any other idea, may be considered either as the effect of an efficient cause, or as the representation of an actually existing reality." He accuses Descartes of confusing these two points of view in his causal argument for the existence of God. "We have allowed ourselves to suppose that there is no God precisely on the ground that all our ideas, even the clearest, are assured only of objective, and not of formal, reality. We have disclaimed, at all events for purposes of argument, the alleged representative character

of ideas, on the ground that we may be the sport of a wicked genius. To reinstate it at this point on the authority of the natural light is to ignore the whole trend of the argument. It may turn out to be true when the existence of God has been proved, but as yet the natural light is still ungrounded. . . ." (*Ibid.*) Now, all this seems to me wrong. For Descartes objective reality was identical with represented reality. The representative character of ideas is quite unaffected by the hypothesis of the malignant demon. It is unaffected even if we suppose that the only real existence is the thinking self. The whole doctrine of ideas as representative is derived from the simple consideration that we are able to think what does not really exist. If the only reality were the self, it might still think of an external world and of God, so as to be able to raise the question whether or not there are real existences corresponding to these thoughts or ideas. Whether or not there is any such real existence, the thought has a content, is the thought of something having a definite character. This content of thought has no being apart from the reality of the thinking process. It exists, not really, but only for a thinking mind. It is in Cartesian language a mode of thought, and thought, except when it is its own immediate object, is representative. It claims to refer to something beyond itself, and a mode of thought is therefore called an idea of this something. An idea is what the mind means or intends, whether what is intended really exists or not.¹ The idea of the self in self-consciousness is (no doubt) exceptional. The reason is that we start from the immediate consciousness of the ideas themselves, and therefore from the real thinking process. It is this real thinking that is seen to presuppose a thinker. Hence the idea of the self is not merely representative. It is direct apprehension of the self as it really exists. But Descartes never says this explicitly, and it may be doubted how far, if at all, he was aware of it. At any rate, in order to establish any other real existence a process of inference is needed, forming a bridge between idea and reality.

(6) If Mr. Gibson fails to understand Descartes' doctrine of ideas he cannot be expected to understand his doctrine of innate ideas. He writes (p. 169): "Considering the Platonic affinities of Descartes it would be natural to suppose that the objective reality within the mind possesses an independent and dominating existence of its own, and reappears in the mind through the medium of a mysterious but infallible translation authorised by God." Such a view would be wholly incompatible with what Descartes meant by an idea. Mr. Gibson proceeds: "This, however, is not Descartes' view. He insists that clear and distinct ideas exist innately in the mind; put there, as we are to discover later, by the intervention of God, and thus linked with the focus of all reality, but totally independent of all

¹ Cf. Husserl's *Méditations Cartésiennes*, which brings out with great clearness what Descartes means by ideas as representations.

empirical experience, even of a non-sensuous order." On this it may be remarked that ideas put into the mind by the 'intervention' of God or of anything else would not be innate but adventitious. Ideas are innate because they are due to the nature of the thinking being as such, in contrast to the fluctuating conditions of his finite history. Their innateness is, as Descartes himself says, nothing different from the innateness of the faculty of thinking. We have innate ideas just because we are thinking beings; we have other ideas just because we are *finite* thinking beings. It follows that innate ideas are common to all thinking minds, if not in a clear and distinct, at least in an obscure and confused form. They constitute the common sense or common reason, which according to Descartes belongs equally to all men. Mr. Gibson is right in saying that they are independent of all 'empirical experience'. But this should be emphatically qualified by the statement that 'empirical experience' is not independent of them. They enter essentially into the constitution of particular ideas as these are empirically given. We can see or mentally picture a triangle only because we have the innate idea of extension. Only the particular shape of the particular figure while we are seeing it is empirically determined. Similarly the idea of the Perfect Being is obscurely involved in all apprehension of things as finite and defective. But as thus embedded in particular empirical ideas, innate ideas are obscure and confused. In order to make them clear and distinct we must disentangle them from their particular sensuous setting so as to apprehend them in their purity and universality. This is a task for Science and Philosophy. The geometrician must have a clear and distinct idea of extension before he can proceed to the clear and distinct perceptions of truth in which geometrical science consists.

This brings us to another point. Mr. Gibson finds a stumbling-block in the Cartesian distinction between the clear and distinct perception of ideas on the one hand and clear and distinct judgments on the other. Owing to what I believe to be a misinterpretation of *Princ. Phil.* I, 48, he mistakes an important distinction deliberately made by Descartes for an unfortunate ambiguity in his view of the nature of innate ideas. He attributes to Descartes a failure to make up his mind whether they are principles of thinking or objects thought of; and he maintains that he ought always to have regarded them as principles of thinking (p. 170). He admits (p. 173) that Descartes explicitly draws the distinction, but he seems mistaken about the nature both of the terms distinguished and of the relation between them. "All knowledge, for Descartes", says Mr. Gibson, "is of innate ideas, and he tells us 'that the objects of our knowledge are to be regarded either as things (or affections of things) or as eternal truths'." But the word here translated by 'knowledge' is *perceptio*,¹ which cannot, standing by itself, mean 'knowledge' in

¹ *Princ.* I, 48. The French version has (a) 'dont nous avons quelque notion' and (b) 'qui tombent sous notre connaissance' to translate the

that strict sense of the term in which 'all knowledge is of innate ideas'. Descartes in a slightly earlier passage (*Princ.* I, 45) has marked off from *perceptio* in general the sort of *perceptiones* on which alone 'a certain and indubitable judgment' (*i.e.*, knowledge in the strict sense) can be based—namely, those which are not only clear but also distinct. Further, among the 'things' enumerated later in *Princ.* I, 48, as objects of *perceptio* are sensations, whose innateness, in the only sense in which Descartes ever calls them innate, is utterly different from the innateness belonging to the objects of knowledge. Thus in I, 48, Descartes is not classifying the objects of knowledge, but simply those objects of which we are immediately (*i.e.*, non-inferentially) aware. These include (a) 'things', upon the awareness (*perceptio*) of which judgments, whether true or (as is possible when the *perceptio* is not distinct) false, may be based; and (b) eternal truths (such axioms as *e.g.*, *ex nihilo nil fit*), which, though they are clear and distinct judgments, are not themselves based upon the perception of 'things', but can be used as steps in the trains of reasoning by which we base true judgments on the perception of those 'things' of which clear and distinct ideas can be formed. The classification in *Princ.* I, 48, does not, then, contain an 'explicit distinction between innate ideas which are principles of thought and those which are not' (p. 173), nor, if I am right, is such a distinction even implied in it. But it does presuppose the more general and very important distinction, made explicitly in *Princ.* I, 45, between clear and distinct judgments on the one hand and clear and distinct ideas on the other. And this is the distinction which Mr. Gibson seems to me to have misinterpreted.

What in fact is the relation between clear and distinct judgments and clear and distinct ideas? In order to judge we must judge about or in reference to something which cannot ultimately itself be a judgment. But the only objects primarily given to us to judge about are, if we except the self, not real existences, but ideas. If the judgment is to be evidently certain, it must refer to a clear and distinct idea and be founded on the nature of that idea. We can be certain only if we know precisely what it is that we are certain of. But only innate ideas can be clear and distinct. A judgment thus grounded in the nature of an innate idea, when that innate idea is clear and distinct, asserts a certain and indubitable truth. The perception of this truth is called a clear and distinct perception. Apart from the distinction and relation between innate ideas and the clear and distinct perceptions founded on them, Descartes' theory of knowledge is unintelligible. Yet Mr. Gibson commonly neglects it and speaks, for instance, of axioms as innate ideas (p. 170). His attitude on this question is deliberate and not due to negligence. He gives reasons for it. He alleges that innate ideas cannot be

same phrase—'quae sub perceptionem cadunt'. Veitch, in spite of his admirable note on *perceptio*, and his usage elsewhere, here translates by 'knowledge'.

objects known, but must, like Kant's categories, be forms of apprehension, or principles of interpretation. If they were objects, he urges, intuitive judgments about them would be merely analytic and would not yield a progressive advance of knowledge (p. 172). But Mr. Gibson becomes liable here to the charge of 'reading history backwards' which he makes against others. It is a grave error thus to assimilate the innate ideas of Descartes to the pure concepts of Kant. The Kantian concepts are empty forms of unity or relation needing to be supplied from another source (the faculty of sensibility) with a manifold to be combined or related. The Cartesian position is radically different. For Descartes ideas of sense are thoughts as determined by the variable conditions of finite existence. Innate ideas are due to the nature of thought itself independently of these conditions. Hence there is no reason why an innate idea should not involve in its unity even an infinite variety, capable of being discovered in detail by the thinking mind proceeding in essential independence of sense and imagination, though they may be useful and even indispensable as helps. In fact, the idea of extension does thus involve an infinite variety of possible sizes, shapes, relative positions and motions, which are gradually brought to light in the study of geometry. It is noteworthy that Descartes lays most stress on this fecundity of the idea of extension as a reason why it must be innate. He does not merely or mainly rely on the necessity and universality of the propositions based on it. Yet on this point also Mr. Gibson tries to assimilate his position to that of Kant.

(7) We now come to Mr. Gibson's main thesis, that Descartes, if he had understood the real drift of his own *Metaphysics*, would have seen that the method of clear and distinct ideas is inapplicable in this field, and would therefore have confined it to Science. Mr. Gibson contends that Descartes cannot without a vicious circle make the criterion of clearness and distinctness ultimately dependent on the veracity of God as the source of our being, and yet use this criterion in proving the existence of God. On this essential question Mr. Gibson seems to me to go astray because he has not taken sufficient pains to make his own ideas clear and distinct. The crucial question is, what precisely is the nature of the doubt that is to be removed by showing that the source of our being is perfect and therefore cannot deceive us? Descartes tells us explicitly and frequently that the doubt cannot arise in the clear and distinct perception itself, but only in remembering that we have had a clear and distinct perception. While the evidence for the proposition that the angles of a triangle are together equal to two right angles is before us we have not only what Mr. Gibson calls 'subjective certainty'; rather, we see from the nature of the case no possibility of any alternative's being true. But in simply remembering that we have thus been convinced by objective evidence we can find a possible opening for doubt which was hidden from us while the evidence itself occupied our attention. We reach a point of view

from which we can detect a possibility that the proposition may after all not be true. What is the ground of this doubt, which Descartes himself calls 'hyperbolic'? Mr. Gibson throughout assumes, without discussion, that the doubt depends on the fallibility of memory. This view seems to me to be quite untenable and to be unwarranted by Descartes' own statements.¹ The doubt would, I submit, remain unaffected, even if we supposed that our memory is always correct when we remember having had a clear and distinct perception which is no longer present. The point is that in retrospect we can raise the question whether the source of our being has so constituted us in our original nature that we may be deceived even in our most clear and distinct perceptions. It may seem to us, while we are considering a proposition together with the evidence for it, that there can be no alternative to its truth, but when we no longer attend to the evidence that convinced us we may have to admit the possibility of an alternative which our Creator has hidden from us. The doubt rests on the assumption that we have initially no clear and distinct perception, and no train of reasoning consisting of clear and distinct perceptions, which excludes the possibility of our Creator's deceiving us in this way. If, therefore, by clarifying our ideas we can reach the appropriate intuition or train of reasoning, the doubt is removed. It does not touch the ultimate validity of the appeal to clear and distinct perception. On the contrary, it is a doubt about the application of this very criterion to a special question, and therefore presupposes its ultimate validity. The criterion fails *prima facie* to settle the question whether or not the cause of our being is such as to deceive us. This special uncertainty affects clear and distinct perceptions in general, with two exceptions—that of our own existence as thinking beings, and the proposition which the doubt presupposes, that we are not self-subsistent, but dependent on a cause. Mr. Gibson, then, is wrong in holding that according to Descartes clear and distinct perceptions require to be positively certified by God. What Descartes seeks is the negative assurance that they are not positively and expressly falsified by God. The malignant demon has to be exorcised.

(8) I have yet to consider on its own merits the view that if Descartes had been true to himself he would have directly connected the real self with the real God, instead of using trains of reasoning. Why did not Descartes proceed as Mr. Gibson holds that he ought to have done? The answer is that his representationism barred the way. The thought of the self as imperfect involves as its correlate the *thought* of a Perfect Being. But it still remains doubtful whether

¹ I here recant (see *MIND*, N.S., Nos. 151-152). I once agreed with Mr. Gibson on this point, but argued that Descartes could easily have avoided the circle without throwing doubt on memory, and that Spinoza had shown how it could be done. I now hold that he *did* in fact mean what I thought he should have meant, and that Spinoza's account is in its main drift an accurate representation of Descartes' actual doctrine.

there really is a Perfect Being corresponding to the thought. We can suppose that there is no such being without the evident contradiction involved in the proposition 'I think that I do not think'. I have suggested above that in the *Cogito ergo sum* Descartes virtually makes the idea of self an exception to his general view of ideas as representations. But he never explicitly asserts this, and probably he never definitely recognized it. Even if he had, this would not have led him to make a similar exception for the idea of God. We cannot clearly and distinctly apprehend the real imperfection of the real self without the thought of a Perfect Being. But if we abide by Representationism it does not follow that a Perfect Being really exists. Now, Representationism is far too deeply rooted in the Cartesian philosophy, and far too important in the subsequent history of philosophy, for us to dismiss it lightly as not expressing the real drift of Descartes. On the other hand, if Mr. Gibson is willing to put forward as his own the doctrine which he tries to read into Descartes, I should essentially agree with him. But Representationism must first be in principle given up.

(9) If Descartes had in fact immediately connected the real self with the real God in one indivisible certainty, could he thereby have dispensed with the demand for clear and distinct ideas? Mr. Gibson takes for granted that he could, without examining the question. Yet it seems to me plain that he could not. Even the certainty of self-consciousness is not beyond doubt unless we first form a clear and distinct idea of the self as a thinking being, excluding from it whatever belongs to body. So, too, we cannot be certain of the existence of a Perfect Being unless we determine precisely what is meant by being perfect. The need for clear and distinct ideas remains unaffected, whether we suppose ourselves to be dealing with realities or with ideal representations.

(10) I have now dealt with the most fundamental and most closely interconnected of the questions upon which I differ from Mr. Gibson. I propose in this last section to indicate briefly and, I am afraid, rather dogmatically, one or two other points of difference which do not fall within the scheme of my main criticism. The first two are, however, closely connected with it. (a) In the chapter on the existence of God Mr. Gibson argues that in the order of discovery the proofs from His effects to Him as their cause must necessarily come before the ontological argument, since we have to start from the thinking self and its ideas. But (1) the ontological argument itself starts from the idea of God—i.e., from one of His effects, though not *quâ* effect; (2) on Descartes' own view, unless we can first prove God to be self-caused, 'there can be no ground for proving the existence of God from His effects' (*Reply to 4th Obj.*, A. and T., VII, p. 239). God cannot be an exception to the rule (the principle of causality) by which His own existence is proved. It is the ontological argument which proves that He is no exception. The *Reply to 1st Objections* brings out clearly that in his version of the ontological argument Descartes does not move directly from

perfection to existence (as the statement of it in the *Meditations* certainly implies), but from His perfection as including the power to cause and maintain His own existence (A. and T., VII, p. 110). In support of this doctrine we find him using all sorts of devices to make the conception of a positive *Causa Sui* palatable to his Scholastic public. Strictly speaking, then, the causal arguments will not stand without the ontological argument. (b) This point is closely connected with the preceding. Mr. Gibson finds (Chap. IX, § 7) the use of the principle of causality in the first proofs of God's existence open to the charge of circularity. "If the notion of cause requires the sanction of God before it can be certified as true, it should not be called into service at all until the existence of God is proved, and least of all in order to prove it" (p. 318). For this version of the charge he advocates the same cure as for that relating to clearness and distinctness—the best way out is to stress the unity of the self and God (not the idea of God) in the original intuition. But (1) if we are thus going to avoid the circle by simply dropping the causal proofs, or leaving them to be brought up in support later, we can do it without thus giving up the fundamental Representationism of Descartes. In the *Cogito* the idea of God as a perfect being is bound up with the intuited existence of the self as a doubting and therefore limited being. This idea is all that the ontological argument needs in the way of material to complete the proof. The obvious objection to this way out (which applies also to Mr. Gibson's) is that we either side-track the causal arguments altogether, or at least make the ontological argument temporally as well as logically prior to them. But Descartes' own second thoughts in the *Replies to 1st and 4th Objections* referred to above, supported by many other passages about the need for proving God to be self-caused, seem to make the latter course necessary in any case. And, starting as it does from the *Cogito*, this procedure does not involve 'an admission that the method cannot produce the results which it claims to produce' (p. 320). However (2) I do not think that this form of the charge of circularity, taken by itself, needs any of these re-interpretations to meet it. The metaphysical doubt against which Descartes appeals to God itself presupposes the validity of the causal principle, for it assumes the possibility that the author of our being causes us to be deceived. Since the doubt, if it held good, would establish rather than undermine the validity of the causal principle, no circle is involved in using the causal principle to overthrow the doubt.

I turn finally to one or two points which have little connexion with each other or with what has gone before. (c) On page 75 'the teaching of nature' (as an impulse to believe) is very cavalierly treated as something against whose cajolings Descartes bids us beware, whereas in fact it plays an integral part in his proof of the existence of the external world. (d) On page 82 Mr. Gibson denies that at the stage of the argument in the *Meditations* marked by the *Cogito* 'even a limited metaphysical status' is assigned to science.

But surely it does have this. It determines the nature, though not the existence, of the physical world. (e) On the next page Mr. Gibson argues that the criticism 'that Descartes has no right to establish the real self without simultaneously establishing a real object' is based on the erroneous assumption that the mind's objects must be real, whereas they may be mere ideas. But in this reply Mr. Gibson does not touch the root of the difficulty. Thinking involves an object thought of and would be impossible without one; the being of what is thought of cannot, therefore, consist simply in its being thought of, since it is itself a necessary condition of the thinking; but on Descartes' view the object represented in an idea may be just an entity of this kind, having being only for thought. In establishing the existence of the thinking self Descartes should also have established objects having an existence independent of their being thought of (though their mode of being need not be what Mr. Gibson means by 'real'). The nearest he got to recognising this was in his insistence that what is objectively contained in an idea must have a *cause* which has not merely objective but formal or at least eminent existence. (f) Mr. Gibson shows a curious misunderstanding (pretty clearly owing to a too hasty reading—a fault which can rarely be imputed to him) of an important part of the only passage in which Descartes attempts to distinguish between clearness and distinctness (*Principles*, I, 45-46). Descartes here uses the example of pain. The immediate presence of the actually felt pain constitutes its clearness (*cf.* the 'liveliness' of Hume's 'impressions'). But when the feeling of pain itself is confused (as it usually is) with the belief that something like it belongs to a part of our body, then the idea of pain, clear and vivid though it is, cannot be called distinct. Mr. Gibson takes this example to be merely an analogy, and refers to the way in which a severe pain may be 'clear in the centre but peripherally indefinite' (p. 154). Though it is in fact an example we may fairly argue by analogy from it to the meaning of 'clearness' as applied to non-sensuous ideas. Their clearness will then be their actual presence to the mind, as opposed to the reminiscence of them (*cf., mutatis mutandis*, the relative 'faintness' of Hume's 'ideas').

I have indicated at the beginning of this notice and illustrated in the course of it the wide scale of Mr. Gibson's book, combined with its elaborate attention to detail. These qualities make it a book for the advanced student rather than for the beginner, and I must confess that owing partly to this elaboration and partly to certain difficulties of style I for one have found some of the book as hard as I have found all of it interesting. It is quite possible, therefore, that some of my criticisms, especially in detail, may be due simply to misunderstanding, and equally possible that many of its readers will share with me neither the one nor the other. At any rate Mr. Gibson's views are worth careful consideration, at first hand, from all who believe that Descartes is worth understanding.

A. K. STOUT.

Moscow Dialogues. By JULIUS F. HECKER, Ph.D. Chapman & Hall, 1933. Pp. xvi + 285. 8s. 6d.

THE theories of Karl Marx and Frederick Engels, though based on extensive academic studies of European philosophy, history and economics, and especially English economics, have only very recently begun to receive any serious attention in academic circles in this country. So secure was England's world trade monopoly during the greater part of the last century that few were ready to doubt the permanency of the capitalist economic system, or the validity of the theories which went with it in England. And even among the working class itself, from the first third of the century onwards, the fight for concessions within the existing social framework yielded sufficient return to make the idea of overthrowing the social system as a whole an extremely remote one. Consequently, under such conditions, there was little room for a philosophy of revolution.

On the other hand, in Russia, the oppression of Tsarism could only be countered by revolutionary activity. The struggle for a betterment in the condition of the Russian working class and peasantry was of necessity a revolutionary struggle, with the result that Liberalism never had a foothold among the Russian workers. With the rise of an industrial working class in Russia, where the organising of workers' educational groups was a revolutionary activity, it is natural that revolutionary education should have got a firm footing. The teachings of Marx, from the beginning unable to get firm root in the liberal atmosphere of England, were less coldly received on the Continent of Europe. There, in many countries, the working class movement was forced to be revolutionary, while in England it was encouraged, by means of material concessions, to be reformist. So that where the need for a revolutionary theory was felt, Marxism was never completely excluded from academic controversy as was the case in England.

The chaotic state of Europe resulting from the war of 1914-18 quite naturally resulted, throughout the world, in a growth of revolutionary feeling, but only in the collapsed Russian Empire has the Communist Revolution so far achieved permanent results. Since the Revolution of November, 1917, two worlds have been in existence, and even the complacency of British Liberalism is now losing some of its self-assurance concerning the permanence of the existing social system. The present crisis, with its unification of industrial control and its open political dictatorships, together, in England, with the loss of a long industrial supremacy, makes new avenues of thought a welcome outlet for the academic mind of to-day; and the fact that the Communist leadership of the U.S.S.R. has not led to collapse, but to widespread industrial and social reconstruction, has aroused a new interest in the affairs of Russia.

"The crisis in capitalist society", writes Professor MacMurray in a Foreword to Dr. Hecker's book, "has sobered our minds. A

large number of people are ready and anxious to make the attempt to understand what has happened in Russia. . . . The theoretical aspect of Soviet activities is indeed of first-rate importance. It is not too much to say that it is quite impossible to understand the political, economic, and social development of revolutionary Russia except by first understanding the philosophy which underlies it. . . . The exposition of the philosophy of the Bolsheviks is . . . not of academic interest only." But the task of expounding this philosophy is not an easy one, for "a revolutionary philosophy implies a revolution in traditional ways of thinking."¹

"Philosophers", wrote Marx, "have interpreted the world differently, but our purpose is to change it."² In this phrase Marx characterised the fundamental difference which exists between his sociological work and that of others. Marx began with a desire to change the world, based on an intense consciousness of the contradictions inherent in the social system under which he lived. In this, his sympathy lay with the working class, who, as the chief exploited class, were made acutely conscious in their everyday life that the world was not what it could be. But in order to change the world it was essential to understand it, and the Socialism of Marx differed fundamentally from earlier socialist theories in that it was at the same time a Sociology, based on a scientific study of the transitory conditions leading to the rise of capitalism and therefore leading ultimately to its downfall; and not a mere aggregation of ethical slogans dealing with the "rights" of the workers, "equality" and "democracy". For so long as socialism was merely a claim to rights, it remained on the ethical plane, and could always be refuted by the economists and sociologists of capitalism, whose scientific studies were inevitably at the same time a justification for the existing social system. Not desiring to change society, they naturally analysed it statically, with the result that they taught automatically the inevitability of its self-perpetuation.

To the claims of the workers that another state of society was necessary the reply was that it was impracticable. The only way in which socialism could be equipped to conquer was by giving it a sociological basis that explained capitalism in a fuller and more accurate way than the sociology and economics of capitalism did, showing how capitalism and the social theories of capitalism were themselves products of history, transitory, containing within themselves the germs of their own decay. Until this could be shown, capitalism was the only scientifically sound social system.

Marx set out to study history with a view to changing the world. Hence his analysis is dynamic and historical. With this approach he showed the rise of capitalism and capitalist economics as a *Process*, and analysed the tendencies inherent in capitalism itself likely to lead ultimately to its collapse. And further, since his method was a way of action as well as a theory, he at the same time

¹ Pp. ix-x.

² Marx, *Theses on Feuerbach*.

laid down certain principles of political action, linking theory and practice together in one political sociological system. In this way Communism is Sociology become an Applied Science.

In *Moscow Dialogues* Dr. Hecker gives, on a classical model, an exposition of Communist theory, together with much useful material concerning the history of that theory. In order that it may better be contrasted with other contemporary attitudes to life, the Dialogue method is employed, and the ideas of "Socratov" the Communist, are thus throughout contrasted with those of a Humanist, a Professor, a Banker, a Rotarian and a Reformer. An Anglican Bishop is also introduced in a discussion on religion. The fact that most of these types are drawn from America and not England is a slight disadvantage to the English reader, for it is unlikely that any English business-man could be quite as stupidly sentimental as the American "Rotarian". Or, for that matter, that an English Professor just at present would be so easily won over to Communist sympathies simply in a series of academic discussions, as occurs with the Professor here. But these are minor details. To those to whom Communism has meant the crying of subversive slogans from soap-boxes and the organising of unreasoned discontent on the part of uncultured workers, this book will be rather a shock. For, throughout, the dialogue is conducted in a most academic fashion, and Socratov is ready to fight the battle on any academic plane which his interlocutors choose to select. There are many in this country to-day who do not yet realise that Communism has an intellectual content at all; and this book is excellently suited to become a first ray of enlightenment to them. The exposition is not throughout equally powerful, and the sympathies of Dr. Hecker himself make him rather water down the Communist case against religion. Further, certain names are grossly mis-spelt and dates incorrect, departures from accuracy which are regrettable, but do not vitiate the philosophical value of the work as a whole. On page 137 there is a serious misprint, that "determinism does destroy reason", which should read "does not", and the rest of the sentence must be modified accordingly. Certain minor historical errors exist, but these do not affect the main line of the discussion.

The Marxist conception of philosophy is stated by Socratov as follows: "Philosophy has always been an attempt to give rational justification either to the past or to the hoped-for future. Its origin may be found in the social experience of classes aspiring to self-consciousness and power. Thus philosophy is not the product of isolated intellectuals living in leisure, but is born in times of conflict. Communist revolutionary philosophy is just such an effort of rational justification and self-direction on the part of the awakened masses of struggling and groping humanity . . . philosophy, like any other social phenomenon, should be studied against that historical and social background in which it has developed. We call this the materialist approach. . . . We call it materialistic in opposition to

idealistic philosophy, which begins its reasoning with a *a priori* premises neither historically established, nor historically checked in the daily struggle of the masses. We call our philosophy Dialectic Materialism because its method is dialectic. That is, we study things, *not as fixed and permanent, but in a moving continuity of interpenetrating opposites*. While evolutionary, our philosophy presupposes *breaks* in the continuity of the past, that is, *it takes revolutionary breaks to be an integral part of the evolutionary process.*"¹

It was in this conception of existence as a *process* that Marx and Engels owed a great deal to Hegel. In the words of Engels: "With Hegel universal philosophy comes to an end, on the one hand because he comprehended in his system its entire development, on the greatest possible scale; on the other hand, because he shows us the way, even though he did not know it himself, out of the labyrinth of systems to a real and positive knowledge of the world."² For his philosophical background, Marx was indebted to Hegel, for his socialist ideas to the French socialists, culminating in Feuerbach, and for his economics to Ricardo and the English school. His synthesis of these three great trends of thought is the body of principles now generally termed "Marxism".

But Hegel was an idealist. To Marx it appeared that the idealism of Hegel's dialectic added nothing to it, while to set it on a materialist basis would make it once and for all a fully equipped scientific method. "With Hegel", he writes, "dialectics stands on its head; it is necessary to stand it on its feet in order to unfold the rational kernel under its mystical husk."³ This was not such an overwhelming transformation in practice, because Hegel's idealism could so easily be turned into a materialist scientific method. "We conceived of ideas as materialistic, as pictures of real things, instead of real things as pictures of this or that stage of the absolute idea. Thereupon the dialectic became reduced to knowledge of the universal laws of motion—of the outer world as well as of the thought of man."⁴ This passage from Engels shows Dialectical Materialism to be simply the dynamic application of the scientific method to every sphere of human existence.

It is significant that the evolutionary theory of Darwin was seized upon enthusiastically by Marx and Engels as an added proof of the validity of their scientific method. While Hegel had discovered the evolutionary principle philosophically, Darwin discovered it in the sphere of natural science. Marx and Engels did not realise, however, the extent to which the evolutionary theory of Darwin was going later on to be used in *opposition to*, instead of being taken to *include*, the theory of the necessity for sudden change, *i.e.*, *revolution*.

The philosophical work of Lenin has rarely received the attention it deserves from the professional philosopher, mainly owing to the

¹ Pp. 9-10.² Pp. 64.³ P. 68.⁴ P. 71.

general disrepute of any revolutionary theory, but also owing to the polemical style of his writings which were bound at the start fatally to antagonise the purely academic student. It has got to be remembered that Lenin was fighting throughout his life for the preservation of the purity of Marxism, not because he was a dogmatist, but because he fully realised the danger to united political action of the watering down of theoretical principles. "Recent philosophy is a partisan as it was two thousand years ago",¹ was his conviction, and all his philosophical work, the greater part of which appears in the volume *Materialism and Empirio-Criticism*, reveals his partisanship together with a vivid grasp of tendencies in thought which were still not recognised by those with whose speciality he was dealing, at the time when he published this work.

The purpose of Lenin in all his philosophical work was to preserve the essentially scientific basis of Marxism. That is, to preserve its materialism. But it must not be thought that the Materialism of the Marxist is the same as that of the nineteenth-century materialists in England, for it is not. On the basis of Hegel, the factor of *qualitative changes* is introduced into Materialistic philosophy, so that no longer is it assumed that materialism necessitates ultimately the reduction of all phenomena to some one "immutable substance" and one set of immutable laws. The fundamentals of *dialectical* as opposed to other forms of Materialism are summed up by Lenin in his polemic against the Russian Machians whom Socratov describes in the following terms: "They are the Russian followers of the empirio-critical philosophy of Mach and Avenarius. They emphasised as the source of knowledge, subjective *sensation* which exists without 'substance', or, as Lenin puts it, there is 'thought without brain'. This subjectivism he refuses to accept because it is disguised idealism, and insists that 'sensation is nothing but a direct connection of the mind with the external world; it is the transformation of energy of external excitation into a mental state . . . the sophistry of idealist philosophy consists in that it takes sensation, not as a connection of the mind with the outer world, but as a screen, as a wall which separates the mind from the outer world'. Thus the dividing line between materialism and idealism is based on the priority of either matter or sensation. A materialist is one who 'takes matter as the *prius*, regarding consciousness, reason and sensation as derivatives'."²

In *Materialism and Empirio-Criticism*, Lenin emphasises the difference between Dialectical Materialism and the older materialist schools. Perhaps it would be well here to supplement Hecker with a rather longer quotation: "But dialectical materialism insists on the approximate, relative character of every scientific proposition concerning the structure of matter and its properties; on the absence of absolute boundaries in nature; on the transformation of moving

¹ P. 109.² P. 121.

matter from one state to another, which from an ordinary viewpoint appears evidently irreconcilable. . . . Recent physics fell into an idealistic swamp mainly because the physicists did not know dialectics. They combated metaphysical (in Engels' sense of the word, and not in the positivist, or Humean) materialism and its one-sided 'mechanisation', and by so doing they not only threw the water out of the bath, but the child as well. By denying the immutability of the elements and the properties of matter known hitherto, they ended with the denial of matter, the denial of the objective reality of the physical world."¹ But such a position would be impossible to the Dialectical Materialist, to whom "the sole 'property' of matter—with the recognition of which materialism is vitally concerned—is the property of being *objective reality*, of existing outside our cognition."²

The materialism of Marx enabled him, on a scale hitherto unprecedented, to make a sociological study of human development while quite free from any ethical prejudices. Thus, not only economics, but ethics, philosophy and religion, become the subject-matter of sociology, and Marx interprets them all as social phenomena. Feeling the necessity for changing the world, and equipped with a sociological method, Marx explains the forces operating for change in existing capitalist society. Further, since he is free from idealistic prejudices, he is able to see human ideas clearly as the reflection of human actions and experiences and, thus, of social structure. The basic human activities, the production of the means of livelihood together with the reproduction of life, that is, the *economic* activities, appear to the scientist, unaffected by idealism, to be the natural basis for human development. "Dialectic materialism proceeds from an analysis of facts and movements. It takes the concrete and seeks to discover the forces at work in the social process. Historically this process reveals the progressive conflict of class interests. . . . Society . . . is more than an aggregate of individuals; it is a formation originating from the producing relations of groups and of individuals. 'Ancient society', says Lenin, 'feudal society and bourgeois society appear to be such *co-ordinations of producing relations* of which each in turn means a special step in the development of mankind. While one of these types is dominant the others may co-exist and intermingle with the rest.'"³

On this basis, that of the conflict of classes, Marx's analysis of the details of social development proceeds. On this basis, it is shown how every "democracy" is in fact the democracy of one class and a dictatorship over other classes; and only when society has evolved to a state of classlessness will this not be so. Just as the worker must fight through strike action in order to better his position within capitalism, so he must fight still harder to overthrow

¹ Lenin, *Materialism and Empirio-Criticism*, p. 221.

² *Ibid.*, p. 220.

³ Hecker, p. 129.

the capitalist system and replace it by socialism. And, the overthrow accomplished, the expropriated class will for a long time be actively attempting to turn the tables again, and therefore only a *dictatorship* of the workers and peasants, which is at the same time *democracy* for the workers and peasants, will guarantee the stability of the new socialist system. Real democracy will only be possible when it is no longer necessary, that is, when all men are equal and voluntarily co-operating in the life of the community.

Since the Marxist recognises that all philosophy is a reflection of human experience, with Marxism we find philosophy becoming consciously a reflection of life, instead of remaining an unconscious reflection of social existence. Therefore philosophy becomes the study of the history of philosophy on the one hand, and fully developed science on the other. In the U.S.S.R., with the new phase in economic life which began with the introduction of the Five-Year Plan, considerable academic changes also occurred along the lines of increasingly linking up intellectual activity with social life. The controversies which arose round these changes might well cause the academic philosophers of other countries to have bad dreams, but as Dr. Hecker shows, they were after all only being asked to take notice of real social life in their work and to beware of purely intellectual exercises of a subjective nature. Such exercises, though natural to the philosophers of a leisured class, are pernicious to a society of workers. The philosopher-as-such is frowned upon; but the philosopher become sociologist or economist is not. In this country, of course, the reverse tends to be the case.

In addition to the first fifteen dialogues which are concerned with the history and fundamentals of Marxist philosophy, and the last dialogue which discusses Communism as a phenomenon of world-wide importance, there are four dialogues concerned with the relation of Communism to certain special spheres of human activity. Religion, Art, Ethics and Education are treated in this way. Of these, the treatment of religion is the weakest, no doubt because the writer himself, having approached Marxism from a religious standpoint, is still more interested in establishing its similarities with religion rather than the qualities which distinguish it. Only this attitude can explain his references, throughout the book, to the "heresies" of various schools of Communists who have deviated from the majority standpoint.

The Communist is antagonistic to religion for several reasons. First, the method of approach of the Marxist is that of the scientist. In this his attitude is from the start a non-religious one. To the scientist, in any particular sphere, the religious approach is superstitious while his own approach is naturalistic. In dealing with social problems the same applies, and thus the first cause for antagonism. Second, the Communist studies religion, as a social phenomenon, *behaviouristically*. Studied from this standpoint he sees it as an intellectual and emotional weapon of authority, closely linked up,

in a society ruled by property-owners, with the property-owning class and actively supporting it. Thus it is a reactionary force in the political system. Thirdly, socially, he sees its subjective approach to be antagonistic to a full development of the scientific approach in society, thus being a factor which cramps the full utilisation of science in the interests of humanity. Finally, he considers that the whole history of religion can be sociologically explained; its origin lying in the fact that man became conscious of himself before he could explain himself. Thus, in the words of Marx, which Dr. Hecker does not quote: "Man makes religion, religion does not make man. Religion indeed is man's self-consciousness and self-estimation while he has not found his feet in the universe".¹ But when he becomes fully scientific, he can face his doubts as gaps in scientific knowledge, while emancipated from all the subjectivism and superstition which religion tends to perpetuate. "The struggle against religion is therefore indirectly the struggle against that world whose spiritual aroma is religion. . . . The abolition of religion, as the illusory happiness of the people, is the demand for their real happiness."¹

To those to whom Communism is still a closed book, and to whom the intellectual side of Communism is yet unexplored, Dr. Hecker's book is a comprehensive introduction. To those who are feeling for new fields of thought, this will stimulate further enquiry into the original works of Marx, Engels and Lenin. To those, on the other hand, to whom any revolutionary philosophy is nauseating because it is linked up with revolutionary practice, this book will at any rate show that there is an intellectual side of the revolutionary movement which can well be considered, on purely intellectual merits, alongside the tomes of more orthodox and more contemplative modern philosophy.

P. A. SLOAN.

The Gestalt Theory and the Problem of Configuration. By BRUNO PETERMANN. Kegan Paul, 1932. Pp. xi + 344. 15s.

THE concept of organism is fashionable in the biological sciences, and by way of cutting the ground from under our feet, its prevalence has been interpreted as an indication of psychological changes occurring in ourselves, which are symptomatic of a recrudescence of social collectivism. Be that as it may, the attention of the psychologising world has been drawn to the importance of 'Gestalt-phenomena', and the word 'Gestalt' has become a watch-word. To many, stimulated, perhaps, by internal conflicts with which another modern school of psychology has made us familiar, and by the attack on the 'old' psychology, which has been made by certain

¹ Marx, *Selected Essays: Hegel's Philosophy of Right*, pp. 1-2.

authors connected with the name of 'Gestalt', the theory is a movement'; they feel that the old order is giving place to something more satisfactory, which will solve all problems, and let in the light.

This is due, I think, to two things. The importance of the Gestalt way of looking at things, and the vigour with which it has been put before us. There is a journal almost exclusively devoted to Gestalt; the leaders of the school have written a large number of books, which have been translated, and these leaders are forceful, energetic and lively characters.

We believed for a long time that sensations were the elements out of which the immediate datum of experience was made up, that the datum of perception was synthetically built up, and that the one-after-another-ness of ideas and movements was determined by the laws of association, one bit 'calling up' the next. This view was supported by authority, and it also fitted in with a 'scientific' attitude which demanded a soul-less concatenation of elements to set against the naïve ideas of common men. Gestalt-psychology emphasised a feature of experience with which association and synthetic views of perception could not deal; it called attention to form in all its manifestations. The field of consciousness is a unity, the field of attention is the pattern-aspect of the field of consciousness, the field of visual perception is organised about a centre, and change in one region is attended by change in another; behaviour is divided into 'suites', meaningful series with a beginning and an end, while thought has meaning of another kind, which cannot be reduced to the mere one-after-another-ness of its elements.

This was an advance; it was so important an advance that a way of looking at things was immediately mistaken for an explanation. It seemed, too, as though analytic psychology were coming closer to real life, because in order to draw attention to form one had to draw attention to experience, as experienced, and insist that as true an account be given as possible. "The point of view", says Koffka, "has been reversed: the immediately present perceptual datum is acknowledged as such and is described as accurately as possible."

A mysterious determining factor called a 'law of association' for which the *beginning* and *end* of a 'piece' of behaviour can have no meaning, is foreign to experience; and to point out that psychology must take account of such things, seemed, again, to make the subject more recognisable, though people hardly noticed that the mysterious laws of association were being replaced by an equally mysterious hypostatisation—*Gestalt*—independent, and operating with its own laws, and in its own right.

The first voices which cried in the wilderness of orthodoxy were not very loud ones. We have all of us been referred to v. Ehrenfels, and some of us have read his famous paper, but it was a trio of louder voices that sent us there.

The great heroes of Gestalt, Wertheimer, Köhler and Koffka, have

so dominated the scene, that converts to the new view are apt to regard v. Ehrenfels and Mach as almost unwitting fore-runners of the great revelation, and to patronise Krueger and his followers as outsiders who have seen the light some time after every one else. This is the reason why Dr. Petermann, in the title of the German edition of the work we are considering, expressly says that he is speaking about the 'Wertheimer-Koffka-Köhlersche Gestalttheorie'.

Gestalt, then, means to many, a light in the darkness, something to 'believe in', and now Dr. Petermann has written a book criticising the Gestalt theory. It must, however, be clearly understood that he welcomes the light which Wertheimer, Koffka, Köhler, Krueger and a host of others have thrown, in insisting on the importance of the Gestalt-phenomena. He repudiates atomism in psychology as forcefully as anyone, but he examines with care, and finally rejects, what Wertheimer, Koffka and Köhler wish to set up in its place.

The result is that those who have been interested in Gestalt-psychology are apt to be surprised at what followers of the Gestalt-school must swallow, if they are to be true believers. A great many people have been so overcome by the revelation of Gestalt-phenomena that they have, perhaps, not taken seriously the theoretical guise in which the phenomena have been presented.

Wertheimer started the ball rolling with his experiments in apparent motion in 1912, but as Dr. Petermann points out, his explanation of this was not a true Gestalt-explanation. Köhler followed in 1913 with a paper on unnoticed sensations and illusory judgments. He insisted that the unconscious judgments involved, according to some psychologists, in the perception of illusions, had to be done away with, laying down the principle of the immediacy of perception. Then came Koffka saying much the same thing but putting rather more emphasis on form as a factor to be reckoned with in its own right.

Wertheimer had insisted on a parallelism between presentation and neural process; it was that, in fact, that puzzled him when he experimented on apparent movement. Here was a phenomenal movement, indistinguishable from 'real' movement, for which there was no obvious physiological parallel, and he had to invent one. This psycho-physiological parallelism is fundamental for the Gestalt school, which means that their 'explanations' all suffer from that circularity to which such explanations are liable. The technique is simple. You first call attention to a Gestalt in phenomenal experience: you point out, for instance, that if you draw a circle on a black-board and then make random marks on it, the form of the circle stands out as being one whole which hangs together, while the adjacent marks have nothing to do with it; this is true and important, but what follows is quite worthless. The next step is to say that there is a patterned state of excitation in the optic sector which corresponds to the circle form. There is no independent evidence of such patterned states of excitation, they are simply

inventions. You then pass back, by way of 'explanation' to the beginning again and say that the neural configuration in the optic sector causes the perception of the circle; and another circle is completed.

Köhler, in 1920, made the position worse by writing a book called '*Physische Gestalten in Ruhe und im stationären Zustand*'. In this work he tried to make the notion of form respectable by showing that forms were to be found in physics. Köhler and Koffka were both trained physicists, and they felt that no concept, however useful when dealing with living material, could be scientifically acceptable unless it were already current in the sciences which deal with dead matter. He pointed out that physics is constantly dealing with relatively closed systems of forces such that alterations in one part cause an alteration in others. This looks very like what is meant by a Gestalt—the whole is something more than its parts, and Köhler erected the Gestalt into an independent principle. The only difficulty is that in point of fact the examples he used, systems of electrolytic solutions and 'distribution systems', are such that the total effects could perfectly well have been inferred from an investigation into the properties of the 'parts', and therefore no new principle need be introduced at all. Now Köhler thought he was not only rendering his psychological concepts more respectable, but also doing the physicists a good turn at the same time, by pointing out a special way of thinking, which they certainly had used, but of which they were not explicitly aware; actually they were perfectly used to calculating the resultants of a combination of forces, and they were explicitly aware of the notion of a relatively closed system, involving the concept of equilibrium. There is, that is to say, no point in '*reifying*' the system, and then treating it as something quasi-independent of its parts, because, in these cases its behaviour is inferable from a knowledge of the parts.

The 'discovery' of physical Gestalten, and the insistence on psycho-physiological parallelism pointed the way for the orthodox Gestalt-school. The Gestalt factor was externalised, first into physiology and then into physics, and a triple parallelism was the result. The stimulating Gestalt causes a gestalted process in the intervening medium, which causes another gestalted process in, say, the optic sector, which further causes a parallel Gestalt to appear in perception.

Psychology, so ran the boast, was being 'built up from the starting point of physics'.

The next task was to find out what characteristics these quasi-independent entities have. The two most important dynamic properties are the tendency to 'closure' and the tendency towards a 'good' Gestalt. These tendencies are, of course, *ad hoc* inventions. The characteristic 'good' means nothing more than 'what actually happens', and if you have a set of elements which hang together, and which are, as it were, spread out in time, so that there is a

beginning and an end, it may be convenient to refer to the passage from the one to the other as a process in the direction of 'closure', because this conveys the idea of a series of directionally related elements, but to pretend that a 'tendency to closure' *explains* anything is sheer nonsense.

So far it has been maintained that the so-called explanations are inventions, that the inventions are given a pseudo-scientific glamour by reference to physics, and that the real process of thought in the minds of the theorists has been, not from physics to psychology, but from psychology through physiology to physics—as indeed it is bound to be in our present state of ignorance of detailed physiology.

There are, however, other objections. Köhler pretends that the pattern imprinted on the retina by the configured stimulus penetrates 'upwards' through the optic sector, like words written inside a stick of rock. The difficulty is that one would have thought that it would have lost its energy before it reached those nerve cells immediately involved in consciousness, which means that a new hypothesis has to be rushed in to the effect that the "conductivity in the neurophysical longitudinal section is distinctly greater than in the cross-section". But unfortunately this is not in accord with what is known of such conductivity from direct physiological research.

A more serious difficulty is brought out by Fuchs' experiments in Gestalt-displacement. In hemiambyopics there is a tendency for a displacement, towards the sound side, of stimuli falling on the amblyopic area, while if stimuli fall on the diseased and sound areas at once, there is a tendency for *total* displacement of the whole pattern made by the stimuli. This total displacement does not, however, always come off. It does not occur in tachistoscopic presentation, when the parts falling in the amblyopic area are not perceived, and it does not occur when those parts which are critical for the total Gestalt fall in the sound area "even though something was perceived of the elements situated in the amblyopic half of the field". This seems at first sight to fit in with the notion that the total Gestalt dominates the displacement. If, however, as Dr. Petermann points out, one takes the physical Gestalt and the physiological Gestalt seriously as being independent entities, there is no reason why sometimes displacement should occur, and sometimes not, since "the amblyopic zone is at all times sensitive enough, in the cases in point, to receive stimuli". What really does seem important is the way in which the phenomenon itself is perceived; it all depends on what it is 'seen as', a point which Fuchs himself seems to make when he says "that dots in the sound half of the field become displaced only when they form a characteristic unitary whole with the dots falling in the amblyopic zone". Surely the 'characteristic unitary whole' is a matter of apprehension and not a matter of a physical relationship between the dots.

This point is made again when we come to the part played by attitude of apprehension in ambiguous Gestalten. Koffka certainly

does speak of "adopting a figure-attitude", showing that he is aware of the problem, but he hastens to 'explain' by saying that such an attitude is a "readiness to carry out a certain structural process", and that each readiness is different from every other, but, as Dr. Petermann observes: "How is one to know in any concrete instance that a 'figure-attitude' of this sort, a figural disposition constituted in this or that particular way, is present? Surely only from the fact that a corresponding 'figural experience' *subsequently* arises."

The externality of the Gestalt-bond is emphasised, once more, in Köhler's account of 'colour-Gestalten'. He taught animals to choose relationally and not absolutely; hens, for example, were induced to peck off a *lighter* grey rather than off an *absolute* grey. This is said to be due to the operation of the Gestalt-bond existing between the two physical greys, which means that he is hard put to it to account for the experimental results of Pavlov in which the whole point is that the animals discriminate one item and react to it in its own right. If the effect of the colour-Gestalt stimulus is entirely a matter of a succession of patterns, each determining the next, starting from the stimulus pattern in the external world, and ending with the muscular pattern involved in pecking, and if therefore it is entirely independent of the way the object is cognised, it is difficult to see why it should have different effects at different times.

Once we have been taught to think in terms of configuration, pattern, etc., the problems of thought psychology seem very much simplified. The most obvious characteristic of a train of thought is that its elements can only be understood in their togetherness, but the Gestalt psychologists believe that, once having realised that, the whole problem of meaning has been solved once and for all. The meaning is the relation subsisting between the part and the whole. Apart from the fact that this has nothing to do with meaning in the sense of 'referring to', it is not even an explanation of any other meaning of 'meaning'; it is sheer verbiage, once more a case of taking a mode of dealing with the material of a problem for its solution. In any case the relation between a part and the whole of which it is a constituent is a formal relation, while the relation between an idea and its context depends on the material of which the context is made up.

Dr. Petermann has made it abundantly clear that nothing is gained by a theory in which Gestalten "appear as ultimate, effective factors to be comprehended in their own right, as factors which, in their distinctive conformance to laws, determine the inner organisation of what is psycho-physically given, in accordance with quite definite 'Gestalt tendencies'."

On the other hand, Gestalt-phenomena are not to be denied. Dr. Petermann does justice to the positive achievements of the Gestalt school. "It is greatly to the credit", he writes, "of the Wertheimer group of workers that it gave the impetus to the real

awakening of the scientific conscience to " the incongruity between the phenomenal and functional characteristics of Gestalt facts on the one hand, and the theoretical possibilities of a synthetic atomistic theoretical formulation, orientated by the element concept, on the other.

The problem is now : what theory are we to put in place of the theory which Dr. Petermann has shown to be untenable ? Krueger has not fallen into the physiological trap. He has elaborated " principles of the self-articulation of Gestalten purely at the psychological level " ; but that, again, leaves us with the difficulties which centre round the part played by apprehension and attitude.

An ' objective ' theory which lays the accent entirely on the Gestalt, whether physical, physiological or psychological, as an independent factor, is unsatisfactory, but a ' mental-act ' or ' unconscious judgment ' approach is almost as bad.

In this connection it is curious to find Dr. Petermann writing as follows : " Gneisze justly remarks : ' A portion of a circle strives for completion. Surely this can only mean that when we become aware of a figure as a portion of a circle we feel ourselves impelled to see or to imagine a complete circle. ' " Obviously we do not, in cases where, in the absence of the conventional stimulus, we perceive a complete, or a self-completing circle, ' become aware of a figure as a portion of a circle ' first ; either we see a complete circle, and that is all, or we see a broken circle whose ends are perceived to move in the direction of ' closure ' (the γ movement) ; the perception is immediate. Whatever the faults of the Gestalt school, they did drive that into our heads.

What is the mid-path between these two extremes of unconscious judgment on the one hand, and independent Gestalt activity on the other ? What theory will do justice to the part played by apprehension, and at the same time take proper account of the external factors of stimulation ? It is with this question that Dr. Petermann leaves us, and it is to be hoped that he will help us to answer it, as adequately as he has disposed of the Wertheimer-Koffka-Köhler alternative.

W. J. H. SPROTT.

A Study in the Philosophy of Malebranche. By R. W. CHURCH, M.A., D.Phil. (Oxon.). Allen & Unwin, 1931. Pp. 286. 10s. 6d. net.

It is to be regretted that wider recognition is not given to Malebranche in our university courses. He is a more important person than the student is likely to gather from the few uncertain and badly informed references usually made to him at the end of courses of lectures on Descartes. He deserves more serious attention if only because he expressed so clearly the main philosophical issues of his age. His own philosophy is perhaps unsatisfactory, though it is marked by a

logical strength which makes it attractive. But he knew better than any of his contemporaries what problems Cartesianism had to face, and his account of these cannot but enlighten the reader. And, again, one must respect him for the many rich and suggestive passages scattered through his works, as for instance, his brilliant analysis of imagination in the second book of the *Recherche de la Vérité*, or his description of *la pensée* at the beginning of the third, or his treatment of causation. To read Malebranche and then to read Hume is to realise how great was the debt of the latter to the former. There are some elements in Hume's theory of causation which must be written down as original. But the major portion of his analysis, it is not too much to say, is in no way original. It can be found in Malebranche.

Not that it is wholly new in Malebranche either. He himself borrowed it, it seems fairly obvious, from a forgotten classic, which he recommends to his readers in the *Recherche*, namely Géraud de Cordemoy's *Le Traité sur le Discernement de l'Âme et du Corps*, published in 1666. (The first volume of the *Recherche* was published in 1674. Cordemoy died in 1684.) Here is another writer who deserves greater attention than is given him to-day. For he also saw some of the deeper implications of Cartesianism. He realised how difficult the problem of causation had become, and he offered the very solution offered by Malebranche later, namely, occasionalism. The causal process, he argued, can be understood only if we first understand that motion does not pertain to the essence of body. It pertains to the Eternal Spirit who first introduced it into bodies and who continues to influence them, causing things to move and to interact in their movements. Dr. Church in this book, it is good to observe, has given due place to Cordemoy, and has emphasised the close and intimate relation that exists between his work and that of Malebranche.

This admirable piece of research by Dr. R. W. Church is a solid, painstaking, exposition and criticism of certain aspects of Malebranche's thought. The author's chief interests seem to centre on the problem of knowledge, and his book is really an account of Malebranche's epistemology. Whatever else he touches upon he does so merely to illumine this main problem. The book is therefore no exhaustive study of Malebranche, and does not pretend to be so. Naturally, it has most to do with Malebranche's chief work, the *Recherche*, but a great deal of the *Recherche* itself remains unconsidered.

It opens with a brief biographical introduction in which it is held that "Malebranche studied Descartes with the doctrines of St. Augustine in mind, a fact which accounts for the most important transformation that he effected in the philosophy of his Master". It was St. Augustine's influence that led him to think that ideas belong essentially not to finite minds as such but to God, in whose mind they represent eternally all that is. The finite mind sees ideas in God. Moreover, since God created things according to the eternal

ideas in His mind, there can be no doubt that these things are truly represented by those ideas, and no doubt that the finite mind in seeing ideas in God sees true representations of things. It is here that Malebranche found a satisfactory solution of the difficulties in representationalism left unsolved by Descartes. To complete the solution, as Dr. Church shows in the rest of this book, two further conceptions had to be developed, that of the vision *of* God, on the one hand, to make the theory of vision *in* God significant, and, secondly, occasionalism, to make God's activity in nature significant.

The first chapter deals with Malebranche's theory of sensation and imagination. What sort of information do the senses give? How do we judge the size and distance of an object? What is the relation between soul and body in sensation? Malebranche's answers to these and the like questions are set forth and examined. In the second his account of spirit is given. We have no full direct knowledge of our own spirit, as Descartes had held. The *Cogito* does not reveal the essential character of spirit in its purity. And Malebranche admits that knowledge of spirit is difficult. We get our highest conception of it in our vision of God. Unlike all other knowledge, our knowledge of God is not and cannot be representational. For "there is no archetype after which God could have been formed". The only kind of 'idea of God' we may have is the knowledge of Him in the Word, but the Word is then God Himself and no representation of Him. Thus when we know infinitely perfect Being there can be no distinction between knowing His essence and knowing His existence, for that is a distinction applicable only within representational knowledge. We enjoy a vision of God which makes possible all the other (representational) knowledge we have, since that is merely vision *in* God. Consequently, also, to know anything is to know God, for we only see it in God.

The next two chapters are devoted to the theory of occasionalism. First, Malebranche's theory is distinguished from Descartes', that things require at each moment to be created anew, the theory of divine concurrence. Descartes' theory, however, involves no occasional cause, which is essential for occasionalism. Yet occasionalism is almost inevitable when certain positions in Descartes are developed, and Dr. Church traces its growth in the writings of La Forge and Cordemoy. Malebranche's main account of it is found in the sixth book of his *Recherche*. Natural things are in themselves impotent. All power comes from God. But there are natural occasional causes to determine the particular application of this power. "The occasional cause" Dr. Church explains, "determines when, and how in particular, He is to act; but this determination is always within the general ways of God". He further shows the real meaning of Malebranche's occasionalism. It is his way of asserting his belief in the Uniformity of Nature. All action in nature is divine, and so it cannot but be orderly. Thus the constant conjunctions revealed to us in experience are truly necessary connections.

Occasionalism is Malebranche's answer to Hume long before Hume propounded the question. Dr. Church's criticism of the theory, that the occasional causes cannot be truly impotent if they possess a power of determination, seems to me very sound. The whole account of occasionalism is thorough and scholarly, though I think the actual statement of the theory is, in view of its importance, somewhat over-condensed, and ought perhaps to have been expanded.

The next four chapters deal with the vision in God. The object of perception in its purity is the idea. This is no sensation or image which both belong to vague perception. But it is the representation in God, real, eternal and truly objective. But does this mean that every individual thing has its representation in God's mind? The *Recherche* suggests some such view, but Dr. Church shows its difficulties and gives us an account of Arnauld's criticisms of the whole theory of vision in God in his *Des Vraies et des Faussees Idées*. (I wish he had also had space to consider Locke's examination of the theory, which seems to me very significant.) Dr. Church holds that Arnauld's purpose is not at all to deny representationalism, though this has sometimes been urged. Both Malebranche and Arnauld took representationalism for granted; that was not the point at issue between them. But Arnauld would not admit that an idea was an entity independent of perceiving, a distinct intermediary between the knower and the object known. We perceive the real object "en tant qu'il est *objectivement* dans mon esprit". We need the representation or idea, but perceiving the representation is our way of knowing the object itself. In this way Arnauld strives to free himself from the duality of object usually connected with representationalism whilst also retaining representationalism. Malebranche replied to these criticisms at great length, setting forward what was virtually a new theory on the lines already suggested in the Tenth *Éclaircissement*. What we perceive in God is intelligible extension as such in which the individuality of the many ideas we see is present potentially rather than actually. Dr. Church rightly doubts whether this further modification can save Malebranche from the difficulties involved in his theory of the vision in God.

In the four concluding chapters Dr. Church deals generally with Malebranche's method, his account of perception, of the will, freedom and judgement, and of knowledge. First, as to method, the distinction between reason and faith in Malebranche's writings is made clear. Faith gives us truth through revelation, and reason deepens our understanding of it. Even sense-perception is "a natural revelation" from which the soul by concentration of attention can pass to pure perception, the final knowledge of truth. The rules of method which Malebranche sets forward show the obvious influence of Descartes, as does the central problem of method for Malebranche, "to resolve," as Dr. Church puts it, "the difficulties in the way of attaining that state in which the divine ideas are clearly and distinctly perceived". (The word "divine" here marks Malebranche's

one development on the epistemology of Descartes.) The most interesting point of the next chapter on perception is the account of Malebranche's effort to give some place in sensation for the knowledge of the existence of things, always an acute problem for a representationalist. Malebranche still contrives to believe (with Locke) that in sensation we have knowledge of the existence of particular things, and not merely ideas of them. He also appeals here to the authority of Holy Scripture, which asserts that God created bodies. The problem of free-will, which is next considered, is equally difficult for Malebranche on account of his occasionalism. If finite will is impotent how can it be free? We are not, however, wholly impotent it would appear, for though we lack all power of acting, we have the power to consent to act or to withhold our consent from acting. In the final chapter it is shown that for Malebranche knowledge is essentially perception or vision, the *intuitus* of Descartes. Dr. Church criticises this view. He asserts that if we say knowledge is perception, no account of inference is then ever possible.

I may begin the few points of criticism I have to make by begging to differ on this point. It seems to me quite possible to give a good account of inference, even though one also holds that knowledge is perception or intuition. Indeed, I should go further, and say that the only adequate account of inference must be one based on a perceptual view of knowledge. Perhaps the Cartesian account of inference is not satisfactory, but I cannot see that its failure is due to its central thesis about knowledge.

In the second place, there are one or two details of exposition upon which I should like to comment. On pages 33-34 Dr. Church talks of the five signs by which, according to Malebranche, we may determine distance, and names them. In my text (*Œuvres*, Genoude et Lourdoueix, Paris, 1837) there are six. Dr. Church runs the fourth and fifth into one another. But I think Malebranche held them to be quite distinct signs. Again, on page 124, when expounding the various theories which Malebranche examined in seeking some alternative to his own theory of vision in God, Dr. Church entirely omits one theory (the fourth, with which the whole of III., ii., 5 is concerned, the chapter entitled "*Que l'esprit ne voit ni l'essence ni l'existence des objets en considérant ses propres perfections*"). I can suggest no reason for this strange omission.

But the work as a whole is excellent. It is occasionally over-condensed, and sometimes rather difficult to read in consequence. But it repays careful attention, and can be recommended as a very satisfactory treatment of certain aspects of Malebranche's thought.

R. I. AARON.

VI.—NEW BOOKS.

Foundations of the Philosophy of Value: An Examination of Value and Value Theories. By H. OSBORNE. Cambridge University Press. 1933. Pp. 132. 8s. 6d.

THIS is a very interesting little book and one which shows considerable originality. The author is satisfied neither with the view that value (or good) is indefinable nor with the view that it is definable entirely in terms of characteristics which are, taken by themselves, non-ethical (naturalism), and consequently is inclined to favour, without being unduly dogmatic, the adoption of a third type of view, according to which value is indeed definable but definable in terms which are not merely psychological, but partly ethical in character. He therefore wishes to define value by means of the other distinctively ethical term, right, as that towards which it is right to have certain feelings. "Religious Value is the property of being an object towards which it is Right that religious adoration should be directed. Aesthetic Value is the property of being an object for which it is Right that admiring contemplation should be experienced. Ethical Value or Goodness is the property of being an object towards which it is Right that the emotion of approval or the sense of obligation should be directed."¹ This definition certainly has some advantages. It enables him, as he points out, effectively to correlate the different values under one head, since, while many have doubted whether there was anything in common between, *e.g.*, the sense in which beauty is (intrinsically) good, and the sense in which certain acts of self-sacrifice for a worthy purpose are (intrinsically) good, it seems quite clear that "right" does have the same sense when we say that it is right to admire Mont Blanc and that it is right to admire self-sacrifice (though "admire" does not). It also escapes the usual objections to a definition of good, since it does not attempt to resolve goodness entirely into psychological concepts, thus destroying the specific character of ethics; and it is certainly an attempt at solving the question which deserves careful attention and has not been sufficiently discussed in the past. It is adopted by Brentano when he defines the good as 'that the love relating to which is right.'² Another merit claimed for it is that it avoids the admission of two indefinable concepts, good and right, since it is clear to the author that right cannot be defined in terms of good.

I fear, however, that the author does not deal adequately with the ambiguities involved in the term "right." He treats it as synonymous with "ought," but it is clear that the theory will not hold water if ought is being used in its specifically moral sense. For "ought" in this sense, as the author admits, can only be applied to what could be brought about directly by an effort of will, and feelings of approval, etc., are not at the time producible or preventable by an effort of will, though they no doubt are often

¹ P. 94.

² Quoted on p. 93.

affected by previous willed actions. I am not under a moral obligation to have certain feelings, only to try to cultivate them by performing actions which will lead to this result. Hence, good has not been reduced to what is usually regarded as the other fundamental conception of ethics, "ought" in the sense of moral obligation. There is, however, another important sense of right or ought which must be clearly distinguished from this, and which occurs commonly enough in everyday speech, far more commonly, I think, than the other. When I say that I ought not to have drawn a particular conclusion, I do not imply that I made the mistake deliberately and was therefore morally to blame; when I say that it is right to prefer one book to another I do not mean that anybody who does not do so is immoral in that respect; and even when I apply the terms to actions, and say that Mr. X. ought not to have taken the turning to the left or was wrong in taking that turning, I do not usually mean that he morally ought not to have done so. This more general sense of ought or right seems to be the one in which the terms are used by the author in defining value. (He suggests 'fitting' as a synonym to make clear its meaning.) But, even if good or value can be defined in terms of ought or right in this sense, as applied to certain feelings, there still remains that fundamental dualism in ethics which has bulked so largely in recent discussions, and which the author is particularly anxious to remove; only now it appears, not as a dualism between 'good' and 'ought,' but as a dualism between two different senses of 'ought.' Mr. Osborne says that the moral sense of 'ought' is "simply a limitation of the wider sense,"¹ but I am quite unable to agree, for it seems to me to introduce a specifically new factor, genuine obligation. Nor does it seem to me possible to define the wider in terms of the narrower sense, as he does in another passage,² by saying that when we are using 'ought' in the wider sense of something, "we mean that where its existence at all depends upon the voluntary action of a moral being he is morally obliged to act in such a way as will further the existence of that thing which is 'most fitting' or 'ought most' to exist." As far as I can see, a man can only be under a moral obligation to perform an action (narrower sense of ought) if and because it is "fitting" that it should be done (wider sense of 'ought'), and in that case we cannot define the wider sense in terms of the narrower³ without committing a vicious circle. Nor am I clear that these are the only relevant ambiguities connected with the terms right and ought, *e.g.*, it seems to me an obvious, though common, mistake to treat "it is right for me to do this" and "this ought to be done by me" as without qualification synonymous. But the objections still leave it possible to define good in terms of the wider sense of 'right' or 'ought,' and I can at least say that this is the first alleged definition of good I have ever seen of the wrongness of which I am not quite confident.

The author is not altogether fair to Prof. Moore in his interpretation and criticism, and he brings a quite unwarranted accusation against Prof. Broad when he suggests that the latter ascribed all naturalistic theories to a mere logical confusion between the proposition that an ethical characteristic synthetically entails certain non-ethical characteristics, and the proposition that it is analysable without remainder in terms of them.⁴ All Prof. Broad

¹ P. 109.

² P. 22.

³ Though I use the terms 'wider' and 'narrower' sense, I do not mean to commit myself to the view that there are only two senses.

⁴ P. 18. The reference to Prof. Broad's book is wrongly given, it should be p. 258, not 238.

maintains is that this confusion is one of the causes which favour naturalism, a view which the author himself asserts elsewhere in his book. It is also to be hoped that Mr. Osborne will find a more satisfactory name for the type of view he is defending than "idealistic theory of value."

While opposed to naturalism, chiefly because he regards the universal relativity that it implies in the sphere of ethics as incredible, he gives a very sympathetic and effective account of the case for it. He claims that the type of theory of value he is maintaining is in a better position to meet the case for naturalism than a view which makes value a quality, but his reasons for this should have been stated more fully. He also gives an interesting discussion of the antinomy between the fact that my "conscience" is not infallible and the fact that in some sense it is always right for me to do what I think right.

The book is a very promising piece of work, and no doubt it would have been much improved if the author had not been limited so drastically by other work as regards the time he could devote to it. It is not free from confusions, but it points out and throws light on a number of confusions that have been committed by others, and shows real power of thought. It is very much to be hoped that we shall hear again from the author. The book may be thoroughly recommended to all students.

A. C. EWING.

Das Problem des geistigen Seins. By NICOLAI HARTMANN. Walter de Gruyter & Co., Berlin and Leipzig, 1933. Pp. xiv + 482. M. 10.

MR. HARTMANN'S many admirers in this country, if they have not already heard of the matter and can read lucid German in unusually short sentences, may be expected to learn with some excitement that he has published this careful and elaborate study in the phenomenology of the philosophy of history and of the sciences of the human spirit. I shall try to give them a brief indication of its scope and tenor, and I shall not try to do anything more. For phenomenology is a spacious pursuit, relying for its success very largely upon its control of incident; and since a reviewer cannot expatiate in this way, he should do least injustice by sketching the high points and leaving the rest alone.

In a historical introduction Mr. Hartmann (who believes that Hegel discovered Objective Spirit but misinterpreted his discovery) compares Hegel with Marx and says that both were wrong. Hegel interpreted from above downwards, Marx from below upwards; but the reality does not permit itself to be treated adequately in this simple-minded monistic way. In fact the lowest categories are the "strongest," but the higher have their own characteristic "freedom" which is misunderstood unless it is approached in the proper phenomenological spirit, according to which the most fundamental conceptions are neither definable nor even explicable. They are only *describable* by those who have sufficient patience and who savour the nature of things.

The book is divided into three parts which deal with the personal or individual spirit, the objective spirit (or, rather, spirits) and objectified spirit. Speaking very roughly I may say that the first of these is the personal soul that is conscious, volitional and introspective; the second (which might be illustrated by a tradition or by the ethos of a people) is said to "live" and to be the only historical reality. The third (illustrated by works of art and other products of the human spirit) has a kind of existence that whets the appetite of every analytical phenomenologist.

In the first part, the author contends that personality must be distinguished from consciousness (indeed that while spirit unites, consciousness divides, although he admits grudgingly and inadequately (p. 238) that consciousness may sometimes tend to unity), and that, as Hegel did not see, it should never be confused with self-consciousness. Positively it is "what is specifically human in a man", and "expansive", that is to say, fitted to play upon things while preserving a certain "distance" from them. It is related to a living organism in a way of its own (the way of "freedom") and this unique relationship should not be confused, say, with the relation of the organic to inorganic material. Its values, again, are an affair of "attitude" and may very well be unconscious.

The second part, as I have said, deals with the "life" of various spirits, e.g., of ancient Greece or Renaissance Florence (and I should imagine of sects, literary schools, or traditions in Rugby football) and of various institutions. Objective Spirit, we are told (or, as I shall say for the future, Objective Spirits), are neither a substance, as Hegel falsely supposed, nor a sum of individuals, and also are not Objectified Spirits. They neither exist nor subsist but super-exist, and this super-existence, while it denies their substantiality, admits and indeed demands their activity. They regulate individual personality, making personality, by participation, a quasi-historical thing, or, as I should perhaps have said, a sur-thing. This sur-thing has consciousness in a sense, but such consciousness is only a cross-section of the consciousness of various persons, and its historical reality (the only proper historical reality) cannot be exhaustively described in terms of these excerpts and surrogates. There is, in fact, no adequate consciousness of the sur-thing. Nevertheless, without it, the individual consciousness would be empty (for the minds of men and women are nourished by these living traditional patterns or schemata) while, without conscious persons, the Objective Spirits would be blind (i.e. unconscious). The Objective Spirits are not infallible, not sinless, not necessarily progressive. Here Hegel misconstrued them again. There are even certain ways in which personal spirits may be superior to the Objective Spirits. But they do super-exist.

I may have indicated by the tone of this narrative that I am not satisfied that Mr. Hartmann has given the only possible phenomenology of this important matter, and I should like to see some one of equal industry and (if that were possible) of equal penetration attempting phenomenologically to cover Mr. Hartmann's ground without dividing active super-existence from existent substances, and without supposing that, in terms of substance, the disjunction between Objective Spirit-Substances and a mere aggregate of Personal Spirit-Substances was anywhere near complete.

Supposing, however, that my wishes in this particular respect are foolish, I am still of opinion that the third part of Mr. Hartmann's book is quite weakly argued. Objectified Spirits are said to be "fixiert", and his analysis is concerned with their "Bindung". Certainly, there is *something* to be analysed. The products of the Spirits (whether Objective or Personal) are and continue to be independent of their producer. If they do change, like the bituminous pigments in a painting, such changes are a complication irrelevant to the normal Spirit-product, unless this product were timed to give its message after a latent period. They are therefore "unhistorical" in the sense that they do not "live" or develop; but I cannot see that Mr. Hartmann gives the least reason for doubting (p. 363) that they simply have, as they appear to have, a *discontinuous* type of spiritual significance. When the gallery is locked up and left to the

care of a Bœotian rather than a Philistine night-watchman I cannot see that the pictures in the gallery have any spiritual quasi-existence (except memorial), and I have no difficulty in supposing that they assume their significance, discontinuously, next morning when the public is admitted and some few of the visitors are capable of æsthetic appreciation. Again, if all clues to the meaning of a written language have disappeared, the spiritual significance attaching to manuscripts or inscriptions in the language would be simply a hopeless puzzle, that is to say, would have a very different significance from the message these writings had been intended to convey.

These examples, I think, are in no way unrepresentative but just the sort of thing that Mr. Hartmann discusses. It is worth while, I daresay, to present an analysis, and Mr. Hartmann, as always, has important running comments to make. I am far from suggesting, therefore, that this third part of an unusual and valuable book is negligible. I also cannot see, however, that it has tackled a major problem, and would therefore commend the incidents rather than the design of this part of Mr. Hartmann's phenomenological journey.

J. LAIRD.

Studies in the Nature of Facts. (University of California Publications in Philosophy, vol. 14.) Berkeley, Calif., Univ. of Calif. Press, 1932. Pp. 232. \$3.00.

BECAUSE of the different senses in which "fact" is used in these eight papers it is not surprising to find different views expressed concerning the nature of facts. While Prof. Pepper and Prof. Loewenberg assume that substances are facts, Prof. Dennes, with whom Prof. Adams partially agrees, restrict the use of the term to events. Prof. Marhenke, on the other hand, denies that substances and events can be facts and adheres to Bertrand Russell's view that facts must have a complexity of structure. Prof. Henderson defines a fact as a certain kind of statement, while Prof. Lenzen appears to denote by "fact" relations between aspects of substances. Prof. Roelofs alone explicitly states that he is concerned with facts in every sense of that term.

In spite of these differences, however, six¹ papers agree in maintaining that facts are in some sense dependent on mind. Moreover, it is agreed in four² of these six papers that this dependence exists because of the way in which theories affect facts. Fact and theory, it is said, though apparently different are, with certain qualifications, indistinguishable. On Prof. Loewenberg's view there is no ultimate distinction between the factual and the non-factual, on the contrary, everything is "qualified factuality." Without theories factuality would apparently have no differentiations. These are introduced by theories prompted by interests. Thus if I am a physicist my interest leads me to qualify factuality as physical, and so on. Prof. Dennes agrees, but makes clear a point not, I think, sufficiently made clear by Prof. Loewenberg, namely, factuality has some intrinsic

¹ Those of Professors Pepper, Loewenberg, Roelofs, Dennes, Henderson and Adams.

² Those of Professors Loewenberg, Dennes, Adams and Pepper. Although the last excludes "middle-sized facts" from the effect of theory.

properties apart from the qualifications introduced by theories. From this intrinsic character of factuality there is no escape. It may thus seem that the position of Prof. Dennes differs markedly from that of Prof. Loewenberg, since the former appears to allow for the brute nature of facts as distinct from fancies, while the latter does not. Yet this is not so, for both agree that fancies are as facty as facts. It seems to me possible that such a position may be due to a failure to distinguish between the theorising or fancying, which clearly are events (and therefore facts for Professors Dennes and Loewenberg), and what is theorised or fancied, which are not events.

Although Prof. Adams agrees as to the important part played by theory, he differs in maintaining that what qualifications we ascribe to factuality depend not only on our interests but also on its intrinsic character. He also renders Prof. Loewenberg's belief that any fact may be a theory and any theory a fact less paradoxical by insisting upon the importance of context. What is fact in one context, or as Prof. Adams would say from one perspective, may be theory from another, and conversely.

Of the remaining papers that of Prof. Roelofs has most in common with those of Profs. Loewenberg, Adams, Dennes, and Pepper. Prof. Roelofs agrees with the first two of these four, that facts have some intrinsic properties. He agrees too with each of them that interest determines what we attribute to factuality. He differs, however, from them in his views concerning how this interest works. I do not feel sure that I have wholly understood Prof. Roelofs' position. He begins by asking a question which is both important and interesting, namely, "Is there any common generic property belonging to every entity denoted by 'fact' in whichever of the many senses in which this word is used?" His paper is an answer to this question. One of my difficulties in following this answer arises because of the apparent contradictions in it. Of some of these contradictions I think Prof. Roelofs is aware; I don't know whether he is of others. Thus he first says that the common property of all facts is *independence* but later this is changed to *serves some purpose*. This may be because independence seems to involve a contradiction, since it means to be *independent of our interests because we WANT such independence*. Yet I doubt if it was the self-contradictoriness of this notion which led Prof. Roelofs to make his substitution, since *independence*, though no longer thought of as the common property of all facts, is regarded as a regulative ideal; another contradiction which perplexes me exists between the assertion that a definition of fact cannot be given and his definition of fact on p. 91.

It is not easy to see how Prof. Henderson's paper is related to the other papers in the volume. Perhaps the connection is this—with the exception of Prof. Marhenke all the writers agree that in some sense mind determines facts; Prof. Henderson agrees with this, but instead of stressing the cognitive he stresses the affective contribution of mind. Sentiments, he maintains, play an enormously large part in our beliefs. The *method* used by Prof. Henderson to discuss the nature of facts is very different from that of the other writers. It approaches that of symbolic deductions.

Prof. Marhenke's position is different from that of each of his fellow-writers, because he has much more in common with Bertrand Russell and Wittgenstein than with any of them. He has nothing new to say about the complexity which he believes Russell correctly ascribes to facts. He sees that probably the best way to get clear about facts would be to discuss separately each type of fact. He limits his discussion to atomic and existence facts. He disagrees with Russell's assertion that we must

be acquainted with every constituent of the former, and maintains that the latter are not ultimately different from the former. His reasons for both of these differences follow from his criticism of Russell's theory of descriptions. The improvements which Prof. Marhenke suggests in this theory do not seem to me those which are required, and I think he may have thought they were because he is confused.

Prof. Lenzen's paper may be very briefly dismissed because I do not think it is really concerned with the nature of facts. That so much of this volume is concerned with attempts to unravel how much, and in what way, mind makes facts cannot be due, I think, to the fact that most of the writers thought of substances and events as facts. The volume leaves me convinced that it is not helpful either to think of substances and events as facts or to think that somehow mind makes facts.

E. M. WHETNALL.

The Theory of Speech and Language. By ALLAN H. GARDINER, F.B.A.
Oxford University Press, 1932. Pp. 332. 10s. 6d.

In this book Mr. Gardiner by the method of putting back single acts of speech into their original setting of real life "seeks to discover what factors are involved" (p. 6).

Part I. contains a general theory of speech and language. The usual definition of speech as the use of articulate sound symbols for the expression of thought is criticised, not as untrue, but as containing no "fructifying" principle and ignoring the fact that I can speak about this pen.

It is before applying his "original-situation" method that Mr. Gardiner decides that an act of speech has four essential factors: (1) the speaker, (2) the listener, (3) the thing referred to, and (4) linguistic material.

The fourth factor in speech, namely words, "as they exist in the possession of every individual, are psychical entities, comprising on the one hand an area of meaning, and on the other hand the image of a sound" (p. 30). The meaning of a word or sentence is to be distinguished from the thing meant by it. When I say Cake? holding out the plate, the thing meant by the word is eatable, while the meaning of the word is not (p. 29). The meaning of a word is something inseparable from it (p. 30). The thing meant is extraverbal but need not be real or materially existent, e.g., the thing meant by 'centaur' (p. 31). The thing meant by an act of speech is defined as that which the speaker intends to be understood from it by the listener (p. 103). 'Meaning' is not to be equated with idea (p. 60). 'Connotation' and 'denotation' bear only a superficial resemblance to the terms 'meaning' and 'thing meant' (note to p. 37).

Behind an act of speech is a body of previous knowledge called language which contrasts with speech, an activity taking place in the present. Language is a name for established habits of speech. Words are the principal units of language though besides these there are syntactic rules and specific types of intonation. The sentence is the unit of speech. A sentence is a word or set of words followed by a pause and revealing an intelligible purpose.

There is a distinction between 'word-form', a fact of language, and 'word-function', a fact of speech. Sometimes the two are incongruent as in *The boy king fell*, where 'boy', though a noun by word-form, functions adjectivally.

Part II. contains the general theory of the sentence. Sentences are divided by differences of sentence-quality into Exclamations, Statements and Demands. In these three, the speaker, the thing and the listener are respectively the most prominent factors. The attempt to assert the quality of a sentence within that sentence itself does but involve us in an infinite regress. It is the form of an interrogative sentence which intimates that the speaker has intended a question (p. 190).

The genesis of sentences, predication and denial are discussed.

The analysis of speech and language might perhaps have been discussed up to a point without philosophising. But Mr. Gardiner does philosophise and the results seem to me confused. There are two confusions bad in themselves and serious in their effects throughout the book. (1) Mr. Gardiner insists very properly that language in some sense refers to things (p. 22), but he is unable to rid himself of the "refer to thoughts" confusion because he himself has not seen through the confusion against which he protests. Thus he answers the objection that "*Pussy is beautiful*" refers not to a thing but to an aspect of, or thought about a thing, by admitting that it expresses a thought and then pleading that a thought is a thing. Should he not have answered that "*Pussy is beautiful*" does not refer to or express a thought but a *fact*, although in *another* sense of 'refer' or 'express', when I utter the sentence, it expresses a thought of mine (see Richard Robinson, *MIND*, Oct., 1928, p. 464)? Again, Mr. Gardiner seems to see no difference between adjectives (noises standing for qualities), predicates (qualities) and conceptions (thoughts of qualities) (p. 33).

(2) Even if it is English to say "*Pussy is beautiful expresses a thing*" (and I doubt it) to say that both nouns and sentences refer to things is to obscure a distinction very important for speech, namely, that between states of affairs and the elements of states of affairs.

Mr. Gardiner's four-factor analysis of speech is too simple if important distinctions are not to be neglected and if we are to cope properly with sentences which refer to things which do not exist. I have not been able to learn how Mr. Gardiner uses 'meaning' and 'thing-meant'; but though I suspect confusion here I fancy it could be straightened out.

The distinction between speech and language is not well exemplified in the word and the sentence. It requires an account of conventional and personal meaning, and the distinction between a particular mark and the class of all marks similar to that mark (Ramsay, *MIND*, N.S., Vol. XXXII, p. 468).

On the other hand, the method of the book is good. And the working out of the distinction between speech and language, form and function, and the study of the effect of the speech "situation", intonation, etc., is valuable.

JOHN WISDOM.

Logistischer Positivismus. Versuch einer Darstellung und Würdigung der philosophischen Grundanschauungen des sog. Wiener Kreises der wissenschaftlichen Weltauffassung. By AKE PETZÄLL. Göteborg: Wettergren & Kerbers. 1931. Pp. 36.

DR. PETZÄLL uses the description 'Logistischer Positivismus' to designate the theories held in common by a group of philosophers often known as 'Der Wiener Kreis'. Of these the best known are Moritz Schlick, Rudolf Carnap, Hans Reichenbach, Walter Dubislav and Otto Neurath. The

word 'Positivismus' is intended to indicate their agreement with Auguste Comte in repudiating *Metaphysik* (in the German rather than in the English sense of the word); the prefix 'logistischer' is required in order to mark a fundamental difference between them and Comte. This point is not clearly brought out by Dr. Petzäll. Prof. Schlick has suggested that a better description would be 'konsequenter Empirismus'.¹ The main influence in determining the views of the Logical Positivists has been what Carnap calls 'die neue Logik', i.e., the logical doctrines of Frege, Peano, Whitehead and Russell, as developed by Wittgenstein. To this must be added the influence of Ernst Mach. As Dr. Petzäll points out, it is no accident that Logical Positivism should have arisen first in Vienna, since there, for some time, philosophy has been studied in close connection with the physical sciences, and there, too, the influence of Wittgenstein appears to have been profound. Wittgenstein may indeed be regarded as the inspiration of the movement.

Dr. Petzäll devotes a considerable amount of his brief discussion to the exposition of Wittgenstein's *Tractatus Logico-Philosophicus*, interspersed with many quotations from the writings of Schlick and Carnap, which certainly throw some light upon the cryptic sayings in Wittgenstein's own book. The exposition appears to the present reviewer to be thoroughly reliable. It should be welcome to those readers of *MIND* who know nothing about the work of this group of philosophers, and should send them to the writings of these philosophers themselves. These writings are chiefly to be found in the journal *Erkenntnis*. The most important and ambitious single publication is Carnap's *Der logische Aufbau der Welt*. It does not fall within Dr. Petzäll's scheme to discuss this book in detail. Attention should, however, be called to it as containing the most elaborate development of the fundamental thesis of Logical Positivism. This is the thesis taken over from Wittgenstein, that 'der Sinn des Satzes die Methode seiner Verifikation ist'—or, as Dr. Petzäll says, to use Wittgenstein's own way of expressing it, 'seine Übereinstimmung und Nichtübereinstimmung mit den Möglichkeiten des Bestehens und Nichtbestehens der Sachverhalte' (p. 31). The result of accepting this thesis is the adoption of a methodological solipsism. This result has been more carefully worked out by members of the Viennese Circle than by Wittgenstein himself.

In so far as the Logical Positivists are concerned to insist upon the importance and the difficulty of distinguishing 'sinnvoll' from 'sinnlos' expressions, they are rendering a considerable service to philosophy, to which, perhaps, Dr. Petzäll hardly pays sufficient attention. He does, however, recognise the value of this way of thinking. But he stresses the difficulty of reconciling two of Wittgenstein's statements in the *Tractatus*. These are: 'Jeder Satz muss schon einen Sinn haben: die Bejahung kann ihn ihm nicht geben, denn sie bejaht ja gerade den Sinn' (*loc. cit.*, p. 74) and 'Im Satz ist also sein Sinn noch nicht enthalten, wohl aber die Möglichkeit ihn auszudrücken' (p. 44). The difficulty turns upon the question in what way we are to distinguish between *having a sense* and *containing a sense*. He recognises that Wittgenstein also insists that 'Im Satz ist die Form seines Sinnes enthalten, aber nicht dessen Inhalt'. The question arises whether the content is to be identified with the atomic facts, or states of affairs (*Sachverhalte*). If so, some reformulation of this central thesis of Logical Positivism would seem to be necessary. Perhaps

¹ 'Positivismus und Realismus' p. 31. (*Erkenntnis*, 1932.)

it is sufficient to say: 'Der Satz zeigt seinen Sinn'. But the difficulty remains that the sense is *shown* only because the rules of logical grammar have been observed, whilst these rules are neither given in experience nor known *a priori*. Dr. Petzäll therefore concludes that it is pure dogmatism to maintain that 'das Gemeinsame von Sprache und Wirklichkeit die logische Form ist' (p. 36).

Brief though Dr. Petzäll's discussion is, it seems to the present reviewer that he has written a most useful essay on an important group of philosophers, which, it is to be hoped, will serve to make their views more widely known.

L. S. S.

The Psycho-Analysis of Children. By MELANIE KLEIN. The International Psycho-analytical Library. London: L. and V. Woolf, Hogarth Press, 1932. Pp. 394. 18s. net. (Translated by A. Strachey.)

THIS book is divided into two parts: part 1 deals principally with the methods developed by the author in the analysis of children, part 2 with the theoretical deductions from the material outlined in part 1, and particularly with the effects of early anxiety situations on the development of the child, which "early anxiety situations are the basis of all psychoneurotic affections".

The Oedipus complex and the relations between obsessional neurosis and the early stages of the Super Ego are discussed. It is interesting to note that the author's views as to the possibility of the child being able to develop a transference-neurosis and also regarding the strength of the ego-ideal differ utterly, as she herself points out, from those held by Anna Freud. Anna Freud considers that it is difficult for a child to develop a transference-neurosis and that his ego-ideal is very weak: Melanie Klein considers that the transference-neurosis is easily produced and that most of the child's difficulties arise in consequence of the strength of his ego-ideal. It seems probable that Anna Freud's views regarding the weakness of the ego-ideal are more nearly correct.

The effects of early anxiety situations on the sexual development of the girl and of the boy are considered in the last two chapters.

The boy's earliest anxiety arises, we are told, with oral frustration. This reinforces his destructive tendencies against his mother's breast, and then his aim is to attack the inside of his mother's body and he "has an oral sucking fixation on his father's penis. . . . Every boy moves on . . . to an oral sucking fixation upon his father's penis."

In addition the boy imagines that his mother "incorporates his father's penis, or rather a number of them, inside herself, so that, side by side with his relations to his father and his father's penis in reality, he develops an imaginary relation to his father's penis inside his mother". His oral desires for his father's penis are one of the motives of his attacks on his mother's body, for he wants to take by force the penis he imagines as being inside her and to injure her in so doing. "He attacks his father's penis within her with all the sadistic means at his disposal". The boy has fears because of a certain rivalry with his mother, but particularly because of his father's penis inside his mother. Also he is terribly afraid of "being castrated by his father's penis inside his mother . . . of having his own penis cut off . . . inside his mother's body".

These and other anxieties and fears, together with his hatred of his father's penis, incite the boy to get possession of his mother in a genital

way and "go to increase his libidinal desires to copulate with her". Then, as he overcomes his sadism towards her, he begins to regard his father's penis inside his mother as a source of danger to her body and to his own penis, "and feels that he must destroy it inside her for that reason". An added incentive towards coitus with his mother "is his epistemophilic instinct. . . . He regards his penetrating penis as an organ of perception and likens it to the eye or ear" or both, and "wants by means of it to discover what sort of destruction has been done inside his mother by his own penis and excrements and by his father's, and to what perils his penis is exposed there". So the boy's "impulsion to overcome anxiety is also an incentive to him to obtain genital gratification".

No wonder that anxiety situations of this nature have such devastating effects! And there can be no doubt left in any critic's mind when he considers how analyses of children are made and the care which is taken to obtain trustworthy data.

The technique of child analysis varies with the age of the child, but analysis is carried out in a special consulting room in which, on a low table, are laid out paper and pencil, coloured crayons and scissors, dolls and toy animals, trains, carriages, etc. Very small children are encouraged to play with these objects, older children draw or play games, while still older children discourse on any subject in which they may be interested, e.g., motors, bicycles, etc. The analyst then explains to the child the significance of his play or discourse. For example, one small child of 3 years 9 months bumped together engines, carriages, horses, etc., at its first analysis. He was told "that in each case they were two people—his Daddy and Mummy—bumping their 'thingummies' together". And so the interpretation of play and discourse proceeded in every case: sometimes faeces were symbolised, but generally the objects were genital symbols and the actions sexual practices of one kind or another.

It may be thought that the quotations are specially selected by one who is antagonistic to psycho-analysis. This is not the case. The reviewer is not antagonistic to psycho-analysis: he has the greatest admiration for Freud and recognises the debt which psychology as a whole owes to Freud. Also the quotations are not specially selected, nor have they been extracted from their context so that their meaning is misrepresented. Similar statements are to be found on almost every page of the book, and there can be no misunderstanding of their meaning.

It may be that the interpretations of the children's play made by Mrs. Klein are correct in some of the cases studied, and perchance the arguments of the second part of her book may hold for these particular children. Who can say? But there is every reason to doubt that the development of the general run of children approximates in any way to that outlined.

In the reviewer's opinion the book gives a totally incorrect view of the child's development and, in consequence, in no way furthers our knowledge and understanding of the life and behaviour of the child.

H. BANISTER.

The Philosophy of the Present. By GEORGE HERBERT MEAD. Edited by ARTHUR E. MURPHY, with Prefatory Remarks by JOHN DEWEY. Paul Carus Foundation Lectures. Third Series. Chicago, Open Court Publishing Co., 1932. Pp. xl, 199. \$3.00.

THE first reflection which this book provokes is that pragmatism does not become easier as it becomes older and more mature. The philosophers who

thought they could despise it because it seemed so reprehensibly popular in its appeal and so easy to be understood by the vulgar, may therefore be recommended to try their teeth upon this latest product of the Chicago School of pragmatism: it may drive them into that revision of prejudices which pragmatism declares to be the only practicable road to truth. For they will find that they are up against a philosopher who has taken seriously to heart the challenge which modern physics offers to the philosopher, and that his picture of pragmatism is one which has assimilated the problems of Relativity and the far-reaching reconstructions of traditional notions which they demand. They themselves will, in all probability, have shrunk from so formidable an undertaking, perhaps wisely, seeing that as yet it seems possible to hold that modern physics is still groping, rather purlblindly, for conceptions that will render some of its newest discoveries compatible with some of its most ancient prejudices, and that it is decidedly premature, and very risky, for a philosopher to take a hand in a game he can hardly claim to understand. I cherish considerable sympathy with this counsel of prudence, but I must confess also to admiration of Prof. Mead's boldness and firmness of grip.

Moreover, quite apart from his interpretation of Relativity, he deals very interestingly and convincingly with an ancient boggy which the critics of pragmatism never seem to weary of parading, *viz.*, the immutability of the past and its recalcitrance to pragmatic analysis. Prof. Mead tackles this boggy firmly, and handles it severely. He takes his stand upon the present situation and the present need of acting from it, and shows that our forecasts of the future and our appeals to the past are alike conditioned by it. "We determine what the world has been by the anxious search for the means of making it better"; "our values lie in the present, and past and future give us only the schedule of the means, and the plans of campaign, for their realisation" (p. 90). Thus "the past (or the meaningful structure of the past) is as hypothetical as the future . . . and the metaphysical assumption that there has been a definite past of events neither adds to nor subtracts from the security of any hypothesis which illuminates our present" (p. 12). He might have added that the phantom of a past independent of our interest in it and of our means of knowing it only arises when we make abstraction from the actual problems that stimulate us to historical research and sever historical *questions* from their *context*. But he is delightfully drastic about a similar phantom, the 'independence' of the real. He shows that for the scientist it is merely a methodological conception, and *not* a metaphysical affirmation of a real world independent of all observation and speculation (p. 101). The scientist has no need for the latter; his "procedure and method contemplate no such finality", but "continued reconstruction in the face of events emerging in ceaseless novelty" (p. 102). So "the independent reality carries with it no implication of finality" (p. 106), "all pasts are as essentially subject to revision as the futures and are therefore only possibilities" (p. 173), and "the novelty of every future demands a novel past" (p. 31). The scientist, accordingly, expects his own "doctrine to be reconstructed just as other scientific doctrines have been reconstructed" (p. 105). After this who can help admitting that the claim to absolute truth is a thoroughly unscientific form of human conceit?

On the other hand, I must confess to doubts whether another audacious argument of Prof. Mead's will prove feasible or fruitful. He attempts to extend the notion of 'sociality' to mean "the capacity of being several

things at once", and to argue that "there is as genuine a sociality in man's relation to his environment as in his relation to the prey or to his mate or to his pack" (p. 49): but the ambiguity between this and the more usual sense of the word seems sometimes to deflect his argument. However, critics should bear in mind, as Prof. A. E. Murphy well explains in his painstaking introduction, that Prof. Mead was overtaken by death before he could put his ideas into shape, and that they in no wise have before them his finished work.

F. C. S. SCHILLER.

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- H. Harrison, *Shall Britain Starve? The Economic Crisis of 1933*, Newcastle-on-Tyne, Easey & Best, 1933, pp. 24, 6d.
- G. de Lorris et J. de Meun, *Le Roman de la Rose*, texte essentiel préfacé et commenté par M. Gorce, Paris, Éditions Montaigne, 1933, pp. 254, 18 fr.

VII.—PHILOSOPHICAL PERIODICALS.

JOURNAL OF PHILOSOPHY. xxix., 22. **H. M. Kallen.** 'Reason as Fact and as Fetish, II.' [Conclusion of a brilliant paper which comments on the rise of mathematical logic and the "illusion that the upshot of an experiment or a statistical manipulation is a 'fact' revealed, not an event transformed". The Aristotelian, Newtonian, and logistical meanings of Reason can join forces against the evolutionary or functional. They all rest on acts of 'animal' faith, and their tools are purely linguistic. This is the sole basis of the antithesis of 'theory' to 'practice'. And 'pure' theory was sterile, because its study was "the prerogative of a leisure class". Modern "descriptions of the world are methods to alter it". It does not find identities but forces upon it identifications, and sees that "if the middle that the law of excluded middle excludes were not continuously bobbing up in the stream of experience" the law would have no meaning.] **A. Tonness.** 'A Notation on the Problem of the Past—with Especial Reference to George Herbert Mead.' [Distinguishes between the metaphysical and the epistemological problem of Time. Metaphysically the "reality of time is the metaphysical reality of the direction of natural processes". But for our knowledge the past consists of a number of reference-systems relative to our various purposes, and "any given past is the past of a definite present". It is a "revisable past which—yesterday, to-day, and for evermore—*never* remains the same".] xxix., 23. **D. C. Williams.** 'On Having Ideas in the Head.' [Defends Russell's 'endocephalic' theory that 'ideas' are "literally parts of the brain of the percipient" against the attacks of Lovejoy and J. B. Pratt, and criticises their 'epistemological dualism'. The conclusion, however, is that the endocephalic hypothesis is doomed to "drift forever in the logical doldrums with such hypotheses as solipsism, the theory of free will, and the doctrine of human immortality".] **P. Horst.** 'Measurement, Relationship, and Correlation.' [Generalities about psychology, leading up to the conclusion that "in order for the counting process to be useful in prediction it is necessary to know what to count and what to do with the numbers resulting from the counting process".] xxix., 24. **G. R. Montgomery.** 'The Above-and-Below Notion.' [Points out that its felt absoluteness proved misleading and formed a serious obstacle to the right understanding of gravitation, and uses this to suggest that a pure empiricism should be prepared for the possibility that the notion of Before-and-After may turn out to be similarly deceptive.] **M. Farber.** 'Professor Driesch on Philosophical Methods of Procedure.' [Gives a (not very illuminating) account of the criticisms of phenomenology in Driesch's *Philosophische Forschungswege*.]

REVUE DE MÉTAPHYSIQUE ET DE MORALE. xxxix^e Année, No. 1. Janvier-Mars, 1932. **Ch. Renouvier et Louis Menard.** *Correspondance inédite, publiée par A. Peyre.* [Letters between Renouvier and Menard, with

an introduction and explanatory notes and references by the editor. Menard was a Greek scholar who exercised for some years a not inconsiderable influence over Renouvier. They appear to have been at one in politics as republicans and opponents of Napoleon III. Menard's admiration for Ancient Greece found expression in a passionate defence of Polytheism to which Renouvier, too, inclined for some years as being especially suitable for a "republican". In the second last letter here printed, however, he records his return to a monotheistic position. Menard is also shown in these letters as trying to gain Renouvier's support for his polemic against the belief in "progress" and, consequently, in the cultural superiority of the modern world over the ancient.] **L. Brunschvicg.** *De la vraie et de la fausse conversion (suite).* [The fourth instalment of this long article which, even now, is not yet complete. It continues the confrontation of two antithetic tendencies in European thought, both philosophical and theological, which are here contrasted as "la raison de sens commun" and "la raison de bon sens." The former is identified with the use of abstract concepts, as practised by "Aristotle and Taine", the latter with the use of analytic relations, as practised by "Descartes and Einstein". The former is allied to "the illusory experience and the subjective intuition of Roger Bacon and William James", the latter to the "well-founded experience and the experimental connection of Galileo and Claude Bernard". To escape the former, it is necessary to emancipate oneself from the metaphysics enshrined in the grammar of ordinary language. This language imposes conventional patterns of thought which are practically useful but devoid of theoretic truth. Many of the terms used by scientists have two meanings, one in popular language, the other in scientific language, e.g., "energy". The scientist has to learn to think in the latter language, e.g., to think of energy in terms of mathematically stateable relationships, even whilst continuing for ordinary purposes to use conventional language. In this instalment, Brunschvicg pursues the contrast between the two senses of reason in a series of polemical discussions directed successively against believers in occultism; Gabriel Marcel; Jacques Chevalier; Gilson's exposition and defence of Thomistic and Augustinian thought; M. Blondel; M. Nabert; and others. Throughout, he combats the tendency to fall back, whether in philosophy or theology, on the supernatural or the transcendent. Always he emphasises that the true conception of the spiritual is as immanent, as the reality of the actual; and as the chief representatives of this sort of rationalism he cites Plato, Spinoza, Fichte. Pure philosophy and pure religion are, at bottom, one and the same, and the consciousness of the spiritual in nature can realise itself only in harmony with scientific truth. Thus, e.g., God is to be conceived, neither in terms of anthropomorphic imagery, nor, agnostically, as an indefinable Beyond. God is real in human experience, as Spinoza held, in man's ascent to the consciousness of the All, or Whole, expressing itself in him and in all other things. This consciousness, though it is momentary in time (now present, and then again displaced by other thoughts), is also "eternal" because the Whole, thinking itself in my thinking it, in this relation to itself transcends temporality.] **P.-M. Schuhl.** *Sur le mythe de la politique.* [Attempts to remove a difficulty in the interpretation of the fanciful astronomy of Plato's *Politicus*. The world is there said to be first turning around its own axis owing to the impetus which God imparts to it; and, then, after God has ceased to move it, to be turning of itself but in the reverse direction, and "on a very small base". What

is the meaning of this reverse movement on a small base? The author explains it by means of the account, in *Republic X*, of the spindle on the knees of Necessity, and thus ascribes the reverse movement of the world to the unwinding of the torsion imparted to the string. He regards the whole passage as an attempt to convey a rational truth in imaginative, but inaccurate, form, comparable to the similes by which present-day thinkers seek to bring home the theory of relativity to those not trained in mathematical reasoning. In an Appendix, the author deals briefly with Reitzenstein's attempt to trace Iranian influences on Plato's astronomy.] *Études Critiques*. **L. Weber.** *Une philosophie de l'invention :*

M. Édouard Leroy. [First instalment of a critical discussion and appreciation of Leroy's philosophy. (Incidentally, this article is an excellent foil to the Rationalism of M. Brunschvicg's article above.) Common-sense, Science, and Philosophy correspond to three different points of view, viz., that of bodily action and social relations; that of analytic reduction and rigorous reasoning; and that of synthetic intuition and the inner life. "The time for rationalist superstition has passed". All creative, inventive, thinking—whatever its results and achievements—is intuitive and wholly different from the reflective thinking which takes the finished results as its data. In the latter, the living impulse has exhausted itself, whereas invention, or inspiration, is the living impulse at work, using what it has made in the past and feeling its way towards what it is about to make in the future.] **M.-A. Cochet.** *Nietzsche d'après son plus récent interprète (suite).* [Completes the review of Andler's volumes on Nietzsche, begun in the previous issue.] *Questions Pratiques*.

C. Bouglé. *Syndicalisme et politique en France.* [A very well-informed and thoughtful discussion of the impact of Syndicalist modes of thought on contemporary politics in France, including the typically French problem of the relation between the Roman Catholic Church and the "lay" (i.e., secular) State which is based on the ideals of the Revolution of 1789. There is an excellent distinction between liberty as autonomy, as power, and as independence, and the inter-play between its economic and political aspects is kept steadily in view. The author recognises that modern industrial democracy needs expert planning and organisation ("la technique") if producers and consumers, in harmony with each other, are to obtain the optimum benefits of modern science and machine production. But he emphasises also that the acceptance of the necessary regulation and control by a people of democratic temper is impossible without a strong emotional drive ("la mystique"). For the creation and maintenance of so delicately organised an order as modern conditions require "moral forces are indispensable".]—Reviews of books, French and Foreign.—Periodicals.—Obituary: Herbert Wildon Carr.

xxxix^e Année, No. 3, Avril-Juin, 1932. **L. de Broglie.** *La représentation simultanée des possibilités dans la nouvelle physique.* [A brief, but illuminating, account of how the formulæ of traditional wave-mechanics are re-interpreted in modern quantum-mechanics. In the classical theory of light, as propagated through space in the form of waves in the ether, a wave of light admits of two kinds of "decomposition". One is "spatial" decomposition which describes the propagation of a light-wave through space by assigning to it at each point in space a determinate function of time, $f(t)$; and the square of that function measures the intensity of the light-wave at that point. The other is "spectral" decomposition which treats a given light-wave as a sum of plane monochromatic waves. Quantum mechanics, with its theory of the "granular" or "photon" structure

of light, conceives the "wave" no longer as an actual vibration in an actual ether, but as an abstract quantity (*grandeur abstraite*) the square of which measures the probability of the presence of the corresponding photon at a given point of space. In general, "the light-wave represents through all its possible decompositions the totality of probabilities relative to the photon associated with that wave". The same re-interpretation applies to the formulæ for the vibration of material particles, *e.g.*, the electron. "For matter, as for light, the wave represents schematically through all its decompositions the totality of possibilities relative to the associated corpuscle." And this correlation of wave and particle can be further generalised into the statement, "To every mechanical quantity (*grandeur*) which is measurable relative to a particle (*corpuscule*) corresponds a certain decomposition of the associated wave, giving the possible values of that quantity and their respective probabilities". So conceived, the source of Heisenberg's Principle of Uncertainty becomes clear: the reason why we cannot determine with precision at once the position and the quantity of movement of a particle is that it is impossible for the two decompositions, spatial and spectral, of the associated wave to be simultaneously simple.] **L. Brunshvig.** *De la vraie et de la fausse conversion (suite et fin)*. [The fifth and last instalment of this long article, the sections of which have appeared at intervals during the years 1930-32. The present section bears the special sub-title "Transcendance et Religion". The "conversion" of which the author has been tracing the nature, now appears quite clearly as the turning of the human mind to a rational understanding of itself and of the Universe of which it forms part, comparable to what Plato, in the *Republic*, describes as the turning of the eye of the soul to the light. Just as in previous instalments the author had contrasted two antithetic ways of conceiving reason and rational methods of thought, so in this article he contrasts two opposed ways of conceiving the Universe, each of which claims to be "spiritual" and to do justice to the demands of "spirit". The one, which he calls *spiritisme* and rejects, construes the Universe as a society of spirits. In theology, it leads to an anthropomorphic God and to insistence on the immortality, in the sense of unending, death-surviving existence, of each human soul or self. The other, which he calls *spiritualisme* and accepts, finds the root of genuine spirituality in the act of reflection by which the Universe becomes conscious of itself and which, in varying degrees, is realised in man's scientific and philosophical thinking, so far as that aims, in selfless surrender, at grasping adequately the nature of the real. Spinoza's contemplation of the Universe *sub specie eternitatis*, and the concept of immortality based thereon, are its prototype. As in previous articles, this view is elucidated by polemical comparisons with opposing contemporary tendencies of thought. In these discussions the author displays his vast learning and his gift for acute criticism. An interesting point is that "life in the biological sense and life in the spiritual sense are oriented in opposite directions". For the former, knowledge is but a means to survival, for the latter it is an end in itself. On true religion as standing "outside" all historical religions; on what constitutes proof in philosophy; on religion and art; and on a large number of other topics, there are stimulating discussions designed to illustrate the main theme.] **J. Laporte.** *L'attention et le libre arbitre selon saint Thomas (suite)*. [Continues from the previous issue a carefully documented analysis of S. Thomas's theory of free-will, leading to the affirmation that "we are masters of our acts because we are masters of our judgments; we are

masters of our judgments because we are masters of our attention". (The next instalment, it is to be hoped, will explain what is meant by being "master of" one's attention, for obviously the whole problem lies in the assertion that "the will has the power to give or withhold attention".)]

A. Dorolle, *Les formes du raisonnement*. [The traditional distinction between deductive and inductive reasoning has been shown, by common consent among logicians, to be without foundation. Reasoning is the act by which one passes from one belief to another with the consciousness of having grounds for this passage. The essence of the process, from the logical point of view, lies in discovering or establishing an identity between differences, i.e., in "assimilating" the differences to each other in this sense. Hence, all fundamental forms of reasoning must be classified according to the way in which this assimilation is effected. This yields two main types, viz., linear assimilation, or deduction; and assimilation of bundles or groups of characteristics, or analogy. All reasonings reduce to one or other of these two types.] *Études critiques*. **J. Renaud**, *L'œuvre de Gustave Belot*. [An appreciative review of the philosophical work and significance of this thinker, especially in the field of moral theory.] **L. Weber**, *Une philosophie de l'invention: M. Édouard Leroy (fin)*. [Continuation and conclusion of the critical review of Leroy's book under that title, begun in the previous issue.] Book reviews, French and Foreign. Periodicals. Obituary: Jacques Herbrand.

REVUE DE PHILOSOPHIE NÉO-SCOLASTIQUE. xxxv^e Année. Deuxième Série, No. 37. Février, 1933. **L. de Raeymaeker**, *Albert le Grand, philosophe*. [An article called forth by the recent canonisation of Albert. Describes the general features of his metaphysic and calls attention to certain points in which it differs from that of St. Thomas. His Aristotelianism is influenced more by Avicenna and Alfarabi than by Averroes, and has thus a Neo-Platonic infusion. This comes out, e.g., in his language about God as a universal *intellectus agens* and the presence of a certain *forma inchoativa* in "first matter," and in the doctrine that the "rational soul" is contained *inchoative* in the "sensitive". Though he anticipated the Thomist denial of the presence of "matter" in the angels, and the formula that the composition characteristic of spiritual substances is that of *quid est* with *quo est*, he did not arrive at the clear Thomist identification of this distinction with that of existence and essence.] **A. Fauville**, *L'associationisme moderne*. [Associationism, though often declared to be dead, is constantly being resuscitated. The author discusses in particular the views of E. L. Thorndike, as an example of associationism founded on elaborate experimentation interpreted by statistical methods. It is claimed that such research proves that all learning by experience presupposes an identical mechanism in all cases, and that we can formulate rigorous "quantitative laws" of the process. An examination of the methods employed by Thorndike and others leads to the conclusions that (1) the process of learning by experience tends to the establishment of an automatic "mechanism", (2) the starting-point of the process is a condition of consciousness which is very different in different cases (e.g., it may be the perception of an association or of a logical connection); the presence of these qualitative differences in (2) shows that such experiments in the process of learning in men and animals yield no knowledge of the real character of "intelligence".] **A. de Poorter**, *Manuscrits de philosophie aristotélicienne à la Bibliothèque de Bruges*. [List of titles with *incipits* and *explicitis*, and some bibliographical notes.] **F. Renoirte**.

La philosophie des sciences selon M. Maritain. [Comments on M.'s work *Distinguer pour unir*. Agreeing with the general positions of M., the writer holds that he now tends, contrary to his earlier bias, to assimilate physics too much to pure mathematics, and has not fully understood Eddington's explanation of the necessarily mathematical character of modern physical science as due to the substitution of a laboratory instrument for the human organism as the object with which an "external excitant" interacts. He agrees with M. that natural science and philosophy of nature are radically different things.] **F. von Steenberghen.** *La philosophie de S. Augustin d'après les travaux du centenaire (cont.)* [Largely critical of Gilson's treatment of the question whether there is, strictly speaking, an Augustinian philosophy. The writer's view is that Augustine's own "philosophy" is really a speculative theology, since its avowed object is the understanding of a *Credo*. He has not a philosophy distinct from this theology and it is a mistake to suppose that there can be a "Christian philosophy." But incidentally he has made many contributions to philosophy in the proper sense of the word, and his work may thus be said to have a philosophy virtually present in it.] Reviews. Chronique.

KANT-STUDIEN. Band xxxvii, Heft 3-4, 1932. **W. Peters.** *Theodor Ziehen zum 70. Geburtstag.* **J. Schultz.** *Die drei Schichten des Wirklichen.* [The three levels of reality are the phenomenal, the physical, and the metaphysical. The physical is a fiction, only convenient or inconvenient, not true or false. Hence the new physics has nothing to offer to philosophy.] **M. Beth.** *Die dreifache Modalität des Psychischen.* [Plea for the recognition of three reality-revealing functions—intellect, understanding, and faith; and a characterological discussion of these.] Reviews. Reproduction of a recently discovered miniature-portrait of Kant without wig, with account by A. Anderson.

Band xxxviii, Heft 1-2, 1933. **F. Böhm.** *Die Philosophie Heinrich Rickerts.* [With portrait. Occasioned by his seventieth birthday.] **K. Bühler.** *Die Axiomatik der Sprachwissenschaften.* [Systematic education of the categories and first principles of the subject. Too long (71 pp.) and closely reasoned for summary.] **H. Kelsen.** *Die platonische Gerechtigkeit.* [The dualism in all Plato's thinking is grounded in the duality of good and evil; the practical interest dominates over the theoretical. Hence his ideal state is to be upheld by untruths and deceit: truth is *raison d'état*. He could vindicate goodness not metaphysically but only religiously.] **C. Glaser.** *Realisten und Idealisten.* [Schiller's classification of men into idealists and realists expresses an ultimate difference, to which all the types of even the latest characterologies can be reduced. Idealists are those who admit no finite limits, pressing every inquiry to ultimate grounds and raising every action to self-determined volition. Realists are those who feel themselves limited in inquiry by empirical laws, in practice by external ends and circumstances.] **G. Müller.** *Josiah Royce: Ein Amerikanischer Kantianer.* Reviews. With this number begins a new feature in the form of an appendix obtainable separately—a classified bibliography of philosophical articles and books in the chief cultural languages.

ERKENNTNIS. Band iii (Annalen der Philosophie, Bd. xi), Heft 2 and 3. **R. Carnap.** *Psychologie in physikalischer Sprache.* [The meaning of a proposition is determined not by the way we get it but by the way we verify it. Psychological propositions can be verified only by physical events

and therefore must be expressible in physical terms, even when they are not deducible from physical laws.] **E. Zilsel.** *Bemerkungen zur Wissenschaftslogik.* [Criticism of Carnap's theory of the starting-point and structure of science as logically unified.] **E. Duncker.** *Behaviorismus und Gestaltpsychologie.* [Carnap's article above is relevant only to the propositions, and within the presuppositions, of behaviouristic psychology.] **R. Carnap.** *Erwiderung auf die vorstehenden Aufsätze von Zilsel und Duncker.* **K. Grelling.** *Bemerkungen zu Dubislav's "Die Definition".* **W. Dubislav.** *Bemerkungen zur Definitionslehre.* **O. Neurath.** *Protokollsätze.* [Against Carnap's doctrine of primal and unverifiable propositions in the *Einheitswissenschaft* of this school.] **R. Carnap.** *Ueber Protokollsätze.* [Reply to preceding.] Reviews.

VIII.—NOTES.

MIND ASSOCIATION : ANNUAL MEETING AND JOINT SESSION.

Members are particularly requested to note that the Annual General Meeting on 7th July, as well as the meetings of the Joint Session following, will be held at *Chancellor's Hall*, Birmingham, and NOT in the University, which is situated at a considerable distance from it.

TO THE EDITOR OF "MIND".

SIR,

Though so obvious an error is unlikely to mislead any of your readers, may I satisfy myself by correcting the suggestion of my article in the last issue (p. 147) that Prof. Pringle-Pattison was unique in delivering Gifford Lectures in two universities? Edward Caird's two courses on *The Philosophy of Religion* and *The Evolution of Theology in the Greek Philosophers*, and James Ward's on *Naturalism and Agnosticism* and *The Realm of Ends* are instances that could not for long remain forgotten by philosophers, but I am much obliged to Prof. Laird who has privately pointed out the slip to me.

I am, etc.,

H. F. HALLETT.

12th April, 1933.

TO THE EDITOR OF "MIND".

DEAR SIR,

I have been reading Mr. Braithwaite's article in the recently published book, *Cambridge University Studies*, with some alarm, in particular what he there represents as being my present views on questions of philosophy. I have been doing research in philosophy during the last four years, but have not published any of my work, except, at the very beginning of that period, a short (and weak) article in the *Proceedings of the Aristotelian Society*. Now had I published my thoughts in print I should not trouble you with this letter. For any serious reader could then look up what my views were in my own publication. As it is, if he is interested in what I think, his only source is Mr. Braithwaite's article. And therefore I must warn such a reader that I disclaim all responsibility for the views and thoughts which Mr. Braithwaite attributes to me. Part of his statements can be taken to be inaccurate representations of my views, others again clearly contradict them.

That which is retarding the publication of my work, the difficulty of presenting it in a clear and coherent form, *a fortiori* prevents me from stating my views within the space of a letter. So the reader must suspend his judgement about them.

Yours truly,

LUDWIG WITTGENSTEIN.

Cambridge,
27th May, 1933.

TO THE EDITOR OF "MIND".

DEAR SIR,

Dr. Wittgenstein has been good enough to show me his letter published above. I should be sorry if it were thought that Dr. Wittgenstein was responsible for any of the statements in my article. I had hoped that my opening paragraph would make it clear that the article stated only what impression the various Cambridge philosophers had made upon me. But, since Dr. Wittgenstein fears that there may be some doubt as to his responsibility, I now regret not having explicitly cautioned the reader against accepting uncritically my account of views which have not been published by their authors in printed form.

The extent to which I have misrepresented Dr. Wittgenstein cannot be judged until the appearance of the book which we are all eagerly awaiting.

Yours truly,

R. B. BRAITHWAITE.

King's College,
Cambridge.

INTERNATIONAL CONGRESS OF PHILOSOPHY.

The eighth International Congress of Philosophy will be held in Prague, Czechoslovakia, from the 2nd to the 7th September, 1934. A programme of papers to be read is being drawn up, and British philosophers who propose to go to the Congress, and are willing to write papers to be presented at its meetings, are asked to send in their names to us. Besides themes chosen by individuals, certain main problems will be dealt with at greater length: The Meaning of Logical Analysis with special reference to Epistemology; Normative and Descriptive Sociology; Values; Religion and Philosophy; the Crisis of Democracy; The Meaning of Philosophy for our time. A special feature of the Congress will be an exhibition of the philosophical literature that has been published since the last Congress at Oxford in 1930.

G. E. MOORE,

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Rotherfield,
Sussex.